INSTITUTIONAL ACCREDITATION

SELF STUDY REPORT

Submitted to

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL (NAAC)
An Autonomous Institution of the University Grants Commission
P.O. Box No.1075, Agarbhavi
BANGALORE-560072

by

Walchand College of Engineering, Sangli

(An Autonomous Institute)

(Approved by AICTE, under the jurisdiction of Shivaji University, Kolhapur)

Vishrambag, Sangli 416415, Maharashstra.
Email:director@walchandsangli.ac.in,
walchand@rediffmail.com
Website: www.walchandsangli.ac.in
Phone: 0233-2303433, 2300383; Fax: 0233-2300831

Table of Content

SECTION B : PREPARATION OF SELF-STUDY REPORT

1. Profile of the Autonomous College

1. Name and Address of the College:

Name	Walchand College of Engineering, Sangli	
Address	Opp. Willingdon Post Office, Vishrambag, Sangli	
City – Sangli	Pin – 416 415	State – Maharashtra
Website	www.walchandsangli.ac.in	

2. For communication :

Designation	Name	Telephone with STD code	Mobile	Fax	Email
Director	Dr. G. V. Parishwad	0233 – 2303433	09822871801	0233-2303307	director@walchandsangli.ac.in
Deputy Director	Dr. P. J. Kulkarni	0233 - 2305506	09960347507	0233-2303307	deputy.director@walchandsangli.ac.in
Steering Committee Co-ordinator	Dr. Smt. S. Subbaraman	0233 – 2304470	09423036963	0233-2303307	shaila.subbaraman@walchandsangli.ac.in

3. Status of the Autonomous College by management.

II Private - Private Govt. Aided

4. Name of University to which the College is Affiliated Shivaji University, Kolhapur

5. a. Date of establishment, prior to the grant of 'Autonomy' (dd/mm/yyyy) -

21/06/1947

b. Date of grant of 'Autonomy' to the College by UGC: (dd/mm/yyyy) -

04/05/2006,
Extension Letter dated 29/04/2015 upto 2019-2020

6. Type of Institution:

a. By Gender

i. For Men	
ii. For Women	
iii. Co-education	√

b. By Shift

i. Regular	√
ii. Day	
iii. Evening	

c. Source of funding

i. Government	
ii. Grant-in-aid	√
iii. Self-financing	
iv. Any Other (please specify)	

7. It is a recognized minority institution?

Yes	
No	√

If yes specify the minority status (Religious/linguistic/ any other) and provide documentary evidence. N.A.

8. a. Details of UGC recognition:

Under Section	Date, Month & Year (dd-mm-yyyy)	Remarks(If any)
i. 2 (f)	Since 1960s	Letter of confirmation dated 30-10-2014
ii. 12 (B)	Since 1960s	Letter of confirmation dated 30-10-2014

The following certificate of recognition u/s 2 (f) and 12 (B) of the UGC Act

Ph. 23236351, 23232701, 23237721
23234116, 23235733, 23232317
23236735, 23239437, 23239627

Extension No. 413 (CPP-I Colleges)
UGC Website: www.ugc.ac.in

F. No. 8-320/2014 (CPP-I/C)

Speed post

विश्वविद्यालय अनुदान आयोग
बहादुरशाह जफर मार्ग
नई दिल्ली-110 002
UNIVERSITY GRANTS COMMISSION
BAHADURSHAH ZAFAR MARG
NEW DELHI-110 002

October, 2014

30 OCT 2014

The Principal,
Walchand College of Engineering
Vishrambag, Sagli – 416 415
Maharashtra

Sub: - Recognition of **Walchand College of Engineering, Vishrambag, Dist. Sangli - 416 415, Maharashtra** under Section 2 (f) &12 (B) of the UGC Act, 1956

Sir,

With reference to the letter no.WCE/UGC/Extension of Autonomy/2529 dated 02.07.2014 on the above subject, I am directed to say that the name of **Walchand College of Engineering, Vishrambag, Dist. Sangli - 416 415, Maharashtra** established in the year of **1947**, affiliated to **Shivaji University, Kolhapur** is included in the list of Colleges maintained under Section **2(f) & 12(B)** of the UGC Act, 1956 under the head **Non-Government** College teaching upto **Master's** Degree.

Yours faithfully,

(Charan Dass)
Under Secretary

7 NOV 2014

b. Details of recognition/approval by statutory/regulatory bodies other than UGC (AICTE, NCTE, MCI, DCI, PCI, RCI etc.)

Under Section/clause	Day, Month and Year (dd-mm-yyyy)	Validity	Programme/ institution	Remarks
i. AICTE 2012	28-04-2015	1 Year	B.Tech (UG) M.Tech (PG)	
ii.				
iii.				
iv.				

(Enclose the Certificate of AICTE for extension of approval for the year 2015-16)

All India Council for Technical Education
(A Statutory body under Ministry of HRD, Govt. of India)

7th Floor, Chandralok Building, Janpath, New Delhi- 110 001
PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-India.org

F.No. Western/1-2451304392/2015/EOA Date: 28-Apr-2015

To,
The Secretary,
Tech. & Higher Education Deptt.
Govt. of Maharashtra, Mantralaya,
Annexe Building, Mumbai-400032

Sub: Extension of approval for the academic year 2015-16

Ref: Application of the Institution for Extension of approval for the academic year 2015-16

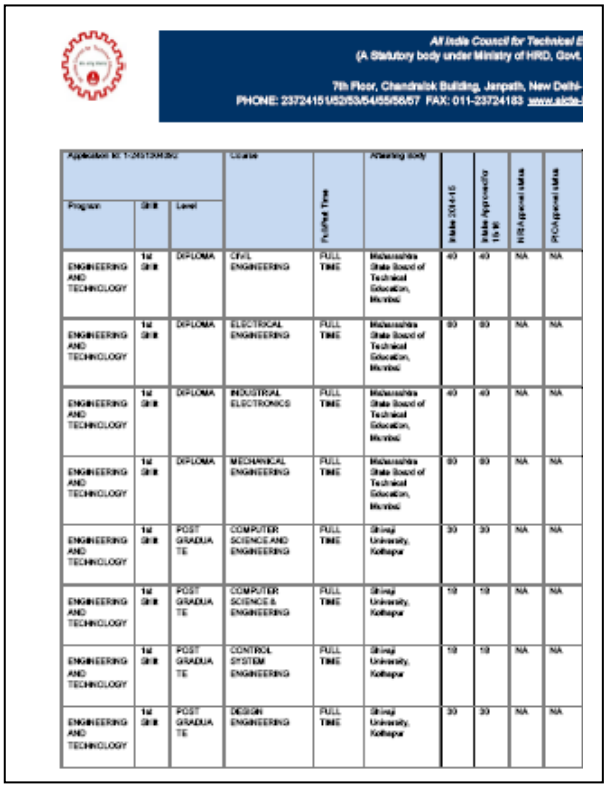
Sir/Madam,

In terms of the provisions under the All India Council for Technical Education (Grant of Approvals for Technical Institutions) Regulations 2012 notified by the Council vide notification number F-No.37-3/Legal/2012 dated 27/09/2012 and norms standards, procedures and conditions prescribed by the Council from time to time, I am directed to convey the approval to

Regional Office	Western	Application Id	1-2451304392
		Permanent Id	1-4197831
Name of the Institute	WALCHAND COLLEGE OF ENGINEERING	Institute Address	OPP. WILLINGDON COLLEGE POST OFFICE VISHRAMBAG, SANGLI, SANGLI, Maharashtra, 416415
Name of the Society/Trust	MTE SOCIETY(REFER DETAILED NOTE/DOCUMENTS)	Society/Trust Address	C/O WALCHAND COLLEGE OF ENGG., SANGLI,SANGLI,SANGLI,Maharashtra,416415
Institute Type	Govt aided		

Opted for change from Women to Co-ed	No	Opted for change of name	No	Opted for change of site	No
Change from Women to Co-ed approved	Not Applicable	Change of name Approved	Not Applicable	Change of site Approved	Not Applicable

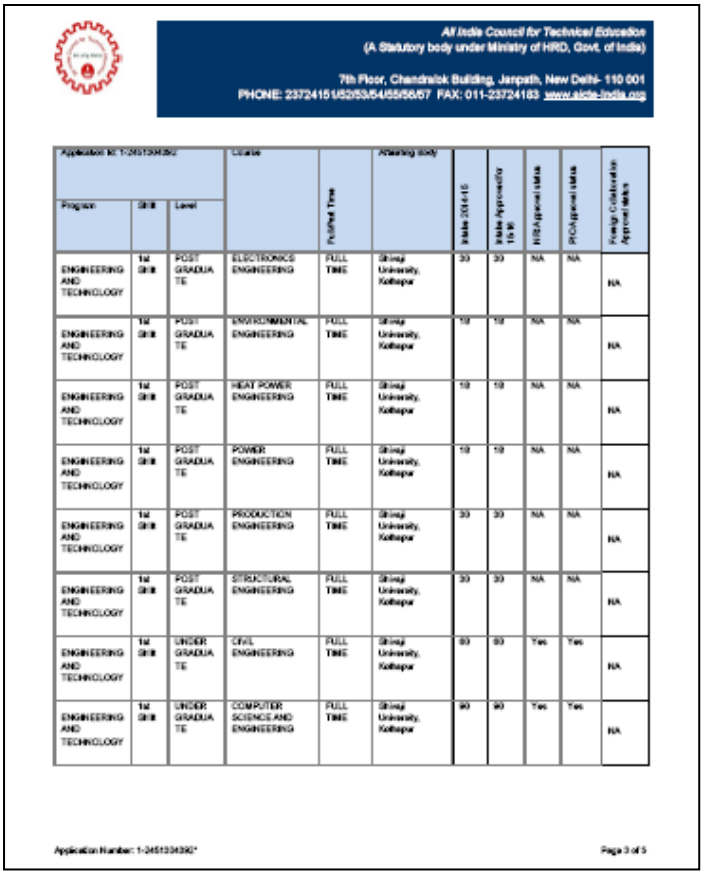
To conduct following courses with the intake indicated below for the academic year 2015-16



All India Council for Technical E
(A Statutory body under Ministry of HRD, Govt.

7th Floor, Chandralok Building, Janpath, New Delhi-
PHONE: 2372415 1/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-

Program	Shift	Level	Course	Full/Part Time	Affiliating Body	State 2014-15	State Approved for 15-16	NRI Approval Status	PIO Approval Status
ENGINEERING AND TECHNOLOGY	1st Shift	DIPLOMA	CIVIL ENGINEERING	FULL TIME	Maharashtra State Board of Technical Education, Mumbai	60	60	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	DIPLOMA	ELECTRICAL ENGINEERING	FULL TIME	Maharashtra State Board of Technical Education, Mumbai	60	60	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	DIPLOMA	INDUSTRIAL ELECTRONICS	FULL TIME	Maharashtra State Board of Technical Education, Mumbai	40	40	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	DIPLOMA	MECHANICAL ENGINEERING	FULL TIME	Maharashtra State Board of Technical Education, Mumbai	60	60	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	COMPUTER SCIENCE AND ENGINEERING	FULL TIME	Shivaji University, Kolhapur	30	30	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	COMPUTER SCIENCE & ENGINEERING	FULL TIME	Shivaji University, Kolhapur	18	18	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	CONTROL SYSTEM ENGINEERING	FULL TIME	Shivaji University, Kolhapur	18	18	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	DESIGN ENGINEERING	FULL TIME	Shivaji University, Kolhapur	30	30	NA	NA

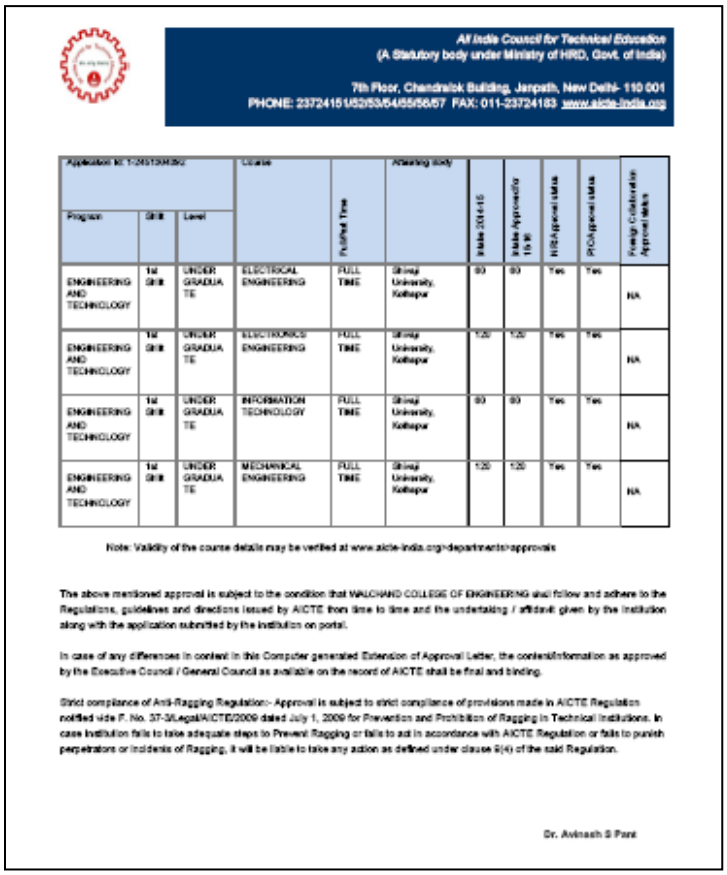


All India Council for Technical Education
(A Statutory body under Ministry of HRD, Govt. of India)

7th Floor, Chandralok Building, Janpath, New Delhi- 110 001
PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-India.org

Application Id: 1-245134392 / Program	Shift	Level	Course	Full/Part Time	Affiliating Body	Intake 2014-15	Intake Approved for 15-16	NRI Approval status	PIO Approval status	Foreign Collaboration Approval status
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	ELECTRONICS ENGINEERING	FULL TIME	Shivaji University, Kolhapur	30	30	NA	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	ENVIRONMENTAL ENGINEERING	FULL TIME	Shivaji University, Kolhapur	18	18	NA	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	HEAT POWER ENGINEERING	FULL TIME	Shivaji University, Kolhapur	18	18	NA	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	POWER ENGINEERING	FULL TIME	Shivaji University, Kolhapur	18	18	NA	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	PRODUCTION ENGINEERING	FULL TIME	Shivaji University, Kolhapur	30	30	NA	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	POST GRADUATE	STRUCTURAL ENGINEERING	FULL TIME	Shivaji University, Kolhapur	30	30	NA	NA	NA
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	CIVIL ENGINEERING	FULL TIME	Shivaji University, Kolhapur	60	60	Yes	Yes	NA
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	COMPUTER SCIENCE AND ENGINEERING	FULL TIME	Shivaji University, Kolhapur	60	60	Yes	Yes	NA

Application Number: 1-245134392* Page 3 of 5



All India Council for Technical Education
(A Statutory body under Ministry of HRD, Govt. of India)

7th Floor, Chandralok Building, Janpath, New Delhi- 110 001
PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-India.org

Application Id: 1-245134392 / Program	Shift	Level	Course	Full/Part Time	Affiliating Body	Intake 2014-15	Intake Approved for 15-16	NRI Approval status	PIO Approval status	Foreign Collaboration Approval status
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	ELECTRICAL ENGINEERING	FULL TIME	Shivaji University, Kolhapur	60	60	Yes	Yes	NA
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	ELECTRONICS ENGINEERING	FULL TIME	Shivaji University, Kolhapur	120	120	Yes	Yes	NA
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	INFORMATION TECHNOLOGY	FULL TIME	Shivaji University, Kolhapur	60	60	Yes	Yes	NA
ENGINEERING AND TECHNOLOGY	1st Shift	UNDER GRADUATE	MECHANICAL ENGINEERING	FULL TIME	Shivaji University, Kolhapur	120	120	Yes	Yes	NA

Note: Validity of the course details may be verified at www.aicte-india.org/departments/approvals

The above mentioned approval is subject to the condition that WALCHAND COLLEGE OF ENGINEERING shall follow and adhere to the Regulations, guidelines and directions issued by AICTE from time to time and the undertaking / affidavit given by the Institution along with the application submitted by the institution on portal.

In case of any differences in content in this Computer generated Extension of Approval Letter, the content/information as approved by the Executive Council / General Council as available on the record of AICTE shall be final and binding.

Strict compliance of Anti-Ragging Regulation:- Approval is subject to strict compliance of provisions made in AICTE Regulation notified vide F. No. 37-3/Legal/AICTE/2009 dated July 1, 2009 for Prevention and Prohibition of Ragging in Technical Institutions. In case Institution fails to take adequate steps to Prevent Ragging or fails to act in accordance with AICTE Regulation or fails to punish perpetrators or incidents of Ragging, it will be liable to take any action as defined under clause 9(4) of the said Regulation.

Dr. Avinash S Pant

All India Council for Technical Education
(A Statutory body under Ministry of HRD, Govt. of India)

7th Floor, Chandralok Building, Janpath, New Delhi- 110 001
PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-India.org

Actg Chairman, AICTE

Copy to:

1. The Regional Officer,
   All India Council for Technical Education
   Industrial Assurance Building
   2nd Floor, Nariman Road
   Mumbai - 400 020, Maharashtra
2. The Director Of Technical Education,
   Maharashtra
3. The Registrar,
   Shivaji University, Kolhapur
4. The Principal / Director,
   WALCHAND COLLEGE OF ENGINEERING
   OPP: WILLINGDON COLLEGE POST OFFICE
   VISHRAMBAG,
   SANGLI,SANGLI,
   Maharashtra,416415
5. The Secretary / Chairman,
   MTE SOCIETY(REFER DETAILED NOTE/DOCUMENTS)
   C/O WALCHAND COLLEGE OF ENGG., SANGLI,
   SANGLI,SANGLI,
   Maharashtra,416415
6. Guard File(AICTE)

9. Has the college recognized

a. **By UGC as a College with Potential for Excellence (CPE)?**

Yes [ ] No [√]

b. For its contributions / performance by any other governmental agency?

Yes [√] No [ ]

If yes, Name of the agency **Govt. of India (TEQIP)** and

Date of recognition: **15/12/2011** (dd/mm/yyyy)

10. Location of the campus and area :

Location	**Urban**
Campus area in sq. mts. or acres	90.5 acres
Built up area in sq. mts.	38626 sq.mts

(* Urban, Semi-urban, Rural, Tribal, Hilly Area, Any others specify)

11. Does the College have the following facilities on the campus (Tick the available facility)? In case the College has an agreement with other agencies in using such facilities provide information on the facilities covered under the agreement.

Auditorium/seminar complex - √

- **Sports facilities**

 play ground - √
 swimming pool
 gymnasium - √

- **Hostel**

 Boys' hostels - √
 Girls' hostels - √

- **Residential facilities**

  - for teaching staff - √
  - for non teaching staff - √

- **Cafeteria** - √

- **Health centre –**

  * First aid facility - √
  * Inpatient facility
  * Outpatient facility
  * Ambulance facility
  * Emergency care facility

  Health centre staff –

Qualified doctor	Full time	Part-time- 1
Qualified Nurse	Full time	Part-time

- **Other facilities**

  - Bank - Campus Extension Counter as required
  - ATM – Available within 500 mtrs. of walking distance
  - Post Office - Available within 500 mtrs. of walking distance
  - Book Shops - Available within 500 mtrs. of walking distance

- **Transport facilities**

  * for students – Not required as College is in the heart of city.
  * for staff - Not required as College is in the heart of city.

- **Power house** - √
- **Waste management facility** - √

12. Details of programmes offered by the institution : (Give data for current academic year)

S. N.	Program_ me Level	Name of the Programme / Course	Dura_ tion	Entry Quali_ fication	Medium of instruction	Sanctioned /approved Student Intake	No. of students admitted
1	UG	Civil Engineering	4 yrs.	12th Pass + Joint Entrance Exam	English	60	63
		Mechanical Engineering				60	62
		Electrical Engineering				60	64
		Electronics Engineering				60	64
		Computer Science & Engineering				90	93
		Information Technology				60	63
2	PG	Civil – Environmental Engineering	2 yrs.	BE/B.Tech Pass in Equivalent courses	English	18	18
		Civil – Structural Engineering				30	30
		Mechanical – Design Engineering				30	30
		Mechanical – Heat Power Engineering				18	18
		Mechanical – Production Engineering				30	30
		Electrical-				18	18

S. N.	Program_ me Level	Name of the Programme / Course	Dura_ tion	Entry Quali_ fication	Medium of instruction	Sanctioned /approved Student Intake	No. of students admitted
		Power Systems Engineering					
		Electrical – Control Systems Engineering				18	18
		Electronics Engineering				30	31
		Computer Science & Engineering				30	30
		Computer Science & Engineering (Spl. in Information Technology)				18	18
3	Diploma	Civil Engineering	3 yrs.	SSC Pass	English	40	42
		Mechanical Engineering				60	64
		Electrical Engineering				60	63
		Industrial Electronics Engineering				40	43
4	Ph.D.	Civil Engineering	----	ME/M.Tech Pass in Equivalent Courses	English	N.A.	--
		Mechanical Engineering					2
		Electrical					--

S. N.	Program_ me Level	Name of the Programme / Course	Dura_ tion	Entry Quali_ fication	Medium of instruction	Sanctioned /approved Student Intake	No. of students admitted
		Engineering					
		Electronics Engineering					--
		Computer Science & Engineering					--

13. Does the institution offer self-financed Programmes?

Yes [ ] **No** [√]

If yes, how many? N.A.

14. Whether new programmes have been introduced during the last five years?

Yes [√] No [ ]

If yes Number 1

15. List the departments:

(Do not list facilities like library, Physical Education as departments unless these are teaching departments and offer programmes to students)

Particulars	Number	Number of Students
Science Under Graduate Post Graduate Research centre(s)	NA	NA
Arts Under Graduate Post Graduate Research centre(s)	NA	NA

Particulars	Number	Number of Students
Commerce Under Graduate Post Graduate Research centre(s)	NA	NA
Any Other (please specify) - **Engineering** Under Graduate Post Graduate Research centre(s)	 6 10 9	 1863 456 2

16. Are there any UG and/or PG programmes offered by the College, which are not covered under Autonomous status of UGC? Give details.

No

17. Number of Programmes offered under
(Programme means a degree course like BA, MA,BSc, MSc, B.Com etc.) –

- B.Tech – 6
- M.Tech - 10

a. annual system
b. semester system √
c. trimester system

18. Number of Programmes with

a. Choice Based Credit System
b. Inter/Multidisciplinary Approach **6**
c. Any other (specify)
d. Unit Cost of Education
(Unit cost = total annual recurring expenditure (actual) divided by total number of students enrolled)

(a) including the salary component | Rs. 85724/-

(b) excluding the salary component | Rs. 4415/-

19. Does the College have a department of Teacher Education offering NCTE recognized degree programmes in Education?

Yes [ ] No [√]

20. Does the College have a teaching department of Physical Education offering NCTE recognized degree programmes in Physical Education?

Yes [ ] No [√]

21. Whether the College is offering professional programme?

Yes [√] No [ ]

If yes, please enclose approval/recognition details issued by the statutory body governing the programme. - **Yes by AICTE, New Delhi (A copy attached in 8(b))**

22. Has the College been reviewed by any regulatory authority? If so, furnish a copy of the report and action taken there upon.

Yes by AICTE, New Delhi (A copy attached in 8(b))

23. Number of teaching and non-teaching positions in the College

Positions	**Teaching Faculty**						**Non-teaching Staff**		**Technical**	
	Professor		**Associate Professor**		**Assistant Professor**					
	M	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**
Sanctioned by the UGC / University /	**14**		**27**		**68**		**138**		**64**	

Positions	Teaching Faculty						Non-teaching Staff		Technical	
	Professor		Associate Professor		Assistant Professor					
	M	F	M	F	M	F	M	F	M	F
State Government										
Recruited	**13**	**1**	**28**	**3**	**57**	**27**	**80**	**7**	**50**	**0**
Yet to recruit	**3**		**12**		**15**		**51**		**14**	
Sanctioned by the Management/society or other authorized bodies	---	---	---	---	---	---	---	---	---	---
Recruited	---	---	---	---	---	---	---	---	---	---
Yet to recruit	---	---	---	---	---	---	---	---	---	---

***M - Male *F - Female**

24. Qualifications of the teaching staff

Highest qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent teachers							
D.Sc./D.Litt.							
Ph.D.	**11**	**1**	**12**	**2**	**1**	**1**	**28**
M.Phil.	--	--	--	--	--	--	--
PG	--	--	**13**	--	**32**	**7**	**52**
Temporary teachers							
Ph.D.	**1**	**1**	--	--	--	--	**2**
M.Phil.	--	--	--	--	--	--	--
PG	**1**	--	**3**	--	**19**	**9**	**32**
Part-time teachers							
Ph.D.	--	--	--	--	--	--	--
M.Phil.	--	--	--	--	--	--	--
PG	--	--	--	--	--	--	--

25. Number of Visiting Faculty/Guest Faculty engaged by the College 7

26. Students enrolled in the College during the current academic year, with the following details:

Students	UG		PG		Integrated Masters		M. Phil		Ph. D		Integrated Ph.D		D.Litt / D.Sc.		Certificate		Diploma		PG Diploma	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
From the state where the college is located	1159	704	370	86	-	-	-	-	2	0	-	-	-	-	-	-	353	314	-	-
From other states of India	-	-	-	-	-	-	-	-			-	-	-	-	-	-	3	-	-	-
NRI students	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Foreign students	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	**1159**	**704**	**370**	**86**	**-**	**-**	**-**	**-**	**2**	**0**	**-**	**-**	**-**	**-**	**-**	**-**	**356**	**314**	**-**	**-**

* M - Male * F - Female

27. Dropout rate in UG and PG (average for the last two batches)

UG	0.4	PG	0.5

28. Number of working days during the last academic year

200

29. Number of teaching days during the last academic year

180

30. Is the College registered as a study centre for offering distance education programmes for any University? Yes [ ] No [√]

31. Provide Teacher-student ratio for each of the programme/course offered

Civil Engineering – 18.25
Mechanical Engineering – 11.75
Electrical Engineering – 18.28
Electronics Engineering – 13.86
Computer Science & Engineering– 24.55
Information Technology – 16.10

32. Is the College applying for?

Accreditation :	**Cycle 1**	√	Cycle 2		Cycle 3		Cycle 4	

Re-Assessment:	

33. Date of accreditation* (applicable for Cycle 2, Cycle 3, Cycle 4 and re-assessment only) -

Not Applicable

34. a. Date of establishment of Internal Quality Assurance Cell (IQAC)
(dd/mm/yyyy)

05/05/2015

b. Dates of submission of Annual Quality Assurance Reports (AQARs).

Not Applicable

(i) AQAR for year …… on ……(dd/mm/yyyy)
(ii) AQAR for year …… on …… (dd/mm/yyyy)
(iii) AQAR for year …… on …… (dd/mm/yyyy)
(iv) AQAR for year …… on…… (dd/mm/yyyy)

35. Any other relevant data, the College would like to include. (Not exceeding one page)

CRITERION I: CURRICULAR ASPECTS

1.1 Curriculum Design and Development

1.1.1 How are the institutional vision / mission reflected in the academic programmes of the College?

Vision of the College:

- To produce capable graduate engineers with an aptitude for research and leadership.

Mission of the College:

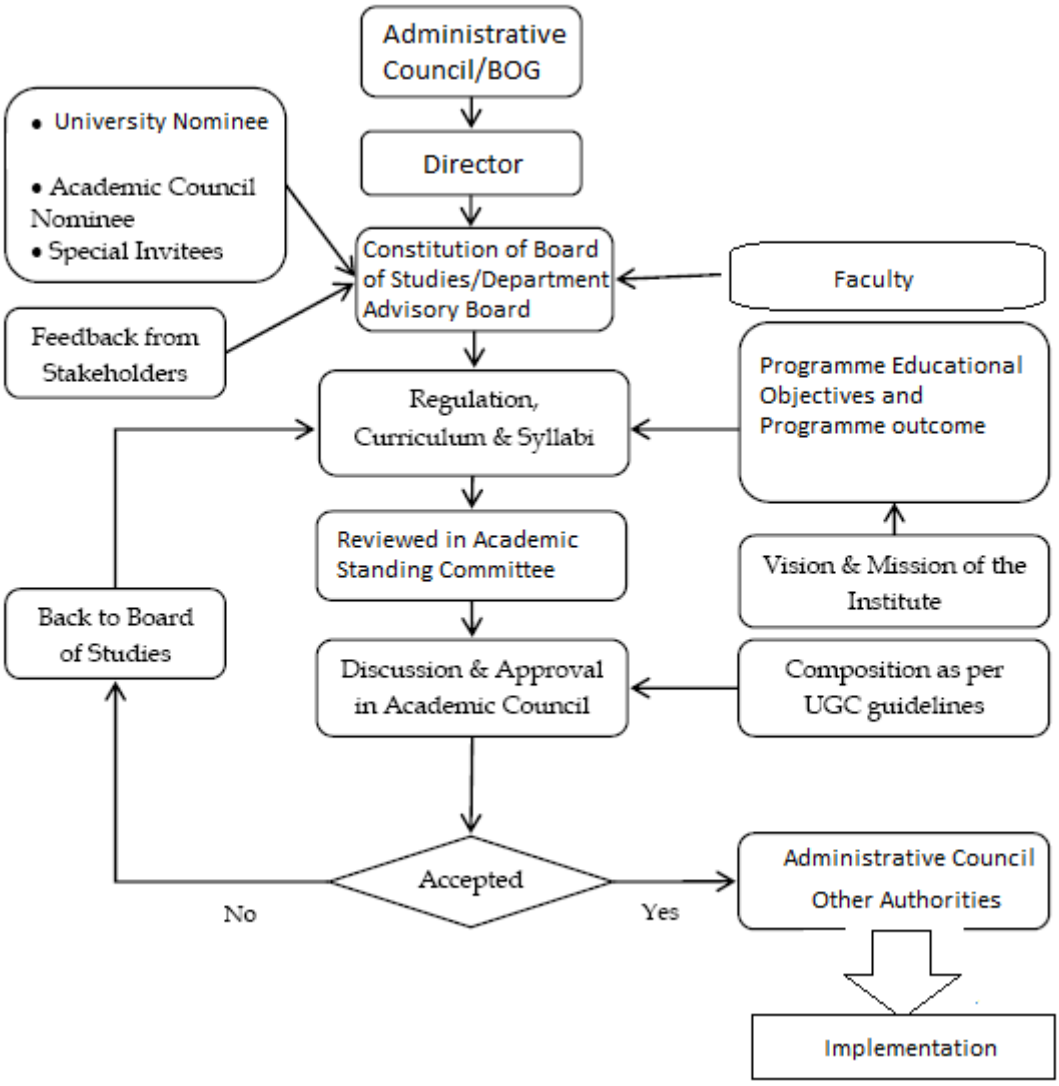
- To impart quality education through demanding academic programmes.
- To enhance career opportunities for students through exposure to industry.
- To promote excellence by encouraging creativity, critical thinking and discipline.
- To inculcate sensitivity toward society and a respect for the environment

The vision and mission of the college are realized through the ever changing syllabi formulated under the guidance of academicians from reputed colleges, Professors and Associate Professors of the college, engineers from industry (who are alumni of the college) and employers, in order to cater the requirements of changing technological developments with appropriate emphasis on basic & engineering sciences and mathematics. The curriculum is designed to offer sufficient flexibility in choosing the departmental and/or interdisciplinary courses right from the second year of the program. The adoption of creative learning methods by keeping Blooms taxonomy in mind and giving experience of "learning by doing" from the second year onwards helps students to understand the concepts in both breadth and depth. The students are exposed to innovative research problems through the centers of excellence set by the college in various fields such as embedded system in collaboration with John Deere, BARC, IBM, Chitale Digitals etc. Organizing various co-curricular and extra-curricular activities centrally by the college or through various student clubs help the students to develop leadership qualities, team work spirit, professional and soft skills which help them to succeed in their life. Values are inculcated in the students through the reflection of the virtues of the all concerned stake holders and the culture of the college. The values related with good citizenship and civic sense is addressed through courses on Environment Studies and Economics and industrial management and

business ethics.

1.1.2 Describe the mechanism used in the design and development of the curriculum? Give details on the process. (Need Assessment, Feedback, etc)

The mechanism used in the design and development of curriculum is as depicted below.



The faculty of each department designs a curriculum with lot of brain storming and deliberations. Critical planning, curriculum development workshops, analysis of feedback reports received by the department from various stake-holders (especially from industries and alumni), discussions on graduate attributes etc. take place before a new course is framed and implemented.

Each department has formed a Board of Studies and Department Advisory Boards, the constitution of which is as follows:

Table 1.1: Department Advisory Board (DAB)

Designation	Designation with Affliation
Chairman	Head of Department
Members	All Professors & Associate Professors
Member	Employer
Member	University Representative
Members	Academician from other reputed institute (2 Nos.)
Member	Alumni
Member	Current Student –UG
Member	Current Student –PG
Secretary	One Associate professor nominated by HoD

The curriculum proposed by the department committee is tabled and discussed in BoS and DAB meeting for approval. Any suggestions by BoS/DAB members are taken into consideration. The modified curriculum is then presented in Standing Academic Committee for the approval to crosscheck the confirmation to institute policies. While framing the curriculum all the guidelines from AICTE are taken into account. Entire curriculum is designed with more flexibility for student to undergo interdisciplinary components. With addition of summer term students will get facility to undergo skilled based and professional courses. Finally it is discussed in meetings of Academic Council are generally scheduled one per semester. After approval by Academic Council, the curriculum is published on the Intranet; else it goes back to BoS for further modification. The constitution of which is as follows:

Table 1.2 : Academic Council (Senate)

Designation	Designation with Affliation
Chairman	Director of the institute
Member secretary	Dean Academics
Members	Hods of all departments
Members	All Professors
Members	Associate Professor (4 Nos nominated by Director)
Members	Experts from Industry, Employer, Education
Member	University Representative
Member	Alumni
Member	Current Student –UG and PG
Member	Invitee by Chairman AC

1.1.3 How does the College involve industry, research bodies, and civil society in the curriculum design and development process? How did the College benefit through the involvement of the stakeholders?

As mentioned above, BoS/DAB of each department has members from industry, other academic and/or research Institute to offer their suggestions for starting new courses, or modifying existing courses as well as for introducing innovation in teaching-learning methodologies and assessment methods. The formal and informal discussions with employers when they visit the college for campus placement and with civic bodies help us to imbibe sense of social responsibility.

The interaction with research institutes like BARC, reputed academic institutes like IITB, Mumbai, IISc, Bangalore, IITR, state level autonomous institutes etc. and industries such as TCS, Infosys, IBM, Geometrics, ST-Microelectronics, Tata Motors, KBL, HCC, John Deere, Hella etc. helps in obtaining sponsored projects and internship for students and collaborative research in emerging areas of Engineering. Since stakeholders are actively involved in curriculum development of the departments, they are assured of the abilities of the graduates of this department which partly results in employment by them of the students of this department.

Besides this, the guidance is taken from the US mentors viz. Louney Morell from HP labs and John Lamankusa from Penn State University on Outcome Based curriculum design to attain the world class standard in line of ABET standards. The views of foreign guests who visited this institute were taken into consideration while

revamping the curriculum. A partial list of such professors include Professor Venkant from Agile Developers, U.S. and Dr. Soham Soni from Arizona State University for CSE and IT department, Prof. John Conrad from North Carolina University USA for Electrical and Electronics department, Prof. Shivam Haran, Alankasa State University for Mechanical department while Prof. Chandrashekhar Putcha, Professor from Fullerton, California State University, for Civil and Applied Mechanics department. The institute has the membership of Indo-US Consortium for Engineering Education (IUCEE) and has close interaction with its US convener Dr. Krishna Vedula and few IUCEE faculty members. Even the renowned Professors from Indian Institute of Technology, Mumbai viz. Prof U. N. Gaitonde (Mechanical Department), Prof Tarun Kant (Civil Department), Prof. Dinesh Sharma, Prof. V. M. Gadre and Prof. Fernandis (Electrical Engineering Department), Prof. Sohani (Computer Science Department) have contributed a lot in getting the curriculum developed in this institute.

1.1.4 How are the following aspects ensured through curriculum design and development?

* **Employability**
* **Innovation**
* **Research**

- **Employability:**

✓ Curriculum and syllabi are prepared with the contribution from industry to meet their general and specific requirements.

✓ Most of the courses of UG and PG program enable the students to enhance their technical and logical skills.

✓ Theory courses are augmented by corresponding practical courses which develop in students the skills related with design, development, debugging, evaluation, instrumentation etc.

✓ Mini-projects are a part of curriculum for both the semesters from the second year onwards of the program. Main project is carried out by the UG students in the eighth semester of the program either in the department or in the industry. For PG programs, one full year dissertation (may be sponsored at the sponsor's site) with 40% of total credits is a part of curriculum

✓ The presentation of mini-projects and projects through seminars for UG program and exclusive seminar course for two semesters of PG program helps to develop communication and professional skills and team skills in the

students.

- ✓ Need based training programs are provided to the students in the form of workshops and guest lecturers from industry experts, professors from reputed foreign or national institutes or in-house faculty.
- ✓ Special Soft-Skill, Aptitude, Attitude development programs from industry professionals are arranged from Training and placement cell on regular basis.
- ✓ Industrial Visits are arranged by various departments to give vision and understanding of current trends and needs of industries.
- ✓ Efforts are taken to introduce open electives so that students can get knowledge from cross domain platforms and apply skills to develop integrated systems.

- **Innovation:**

- ✓ Students are given number of opportunities to project their innovative skills by participating in VISION (a national level annual technical event organized by the college), Tech-FEST (organized annually by IITB, Mumbai), Mind Spark- (organized by CoEP, Pune), Design contest held by TI and Cadence- Bangalore, Baja Competition, Supra Competition, FE (Fuel Efficient) Cycle Competition (organized by Society for Automotive Engineers) and technical events organized by other colleges. The students of this institute had not only participated in such National level events, but also have grabbed the prizes.

- ✓ Each department student organization organizes competitions and weekly club services on various technical skills throughout the year. ELESA for Electronics Engineering Student Association arranges Circuit Design, Programming Skills, Circuit Simulation activities to nurture the Electronic Design and Debugging related skills in the students. CESA – Civil Engineering department students association, MESA- Mechanical Engineering department students association, EESA- Electrical Engineering department students association, SAIT- Students association of Information Technology, Computer Science department Students association .

- ✓ Apart from various students organization there are other clubs with cross domain department memberships are in existence such as SOFTA- Students organization for Technical Activities, PACE- Personality Advancement Circle for Engineers. There programs are innovative, creating social awareness and responsibility towards society.

- ✓ PG and UG students are encouraged to present the papers on their dissertation and project work in the conferences held anywhere in India.

- ✓ The state of the art centers of excellence are getting established in the institutes in the various areas in the departments.
- ✓ The college is arranging specialized courses with help of Tata Technology Limited in the Area of CAD-CAM, PLM etc. This will help the students to develop professional skills in product development.

- **Research:**

- ✓ College has established linkage with research organization (BARC), academic institutes of national repute (IITB, IISC, IITR) and industries (Chitale Digital, Texsa Instruments, John Derre, Hella, Applied Micro, Kirloskar Brothers, Tata Motors, Persistance, Infosys, Symmantic, Tata Consultancy Services etc) in order to pursue collaborative research.
- ✓ The courses on mini-projects and projects make the students to review the literature and prepare the synopsis. This helps to impart them self learning attitude.
- ✓ Faculties are deputed under QIP to pursue Ph. D. at I.I.T.s/ I.I.Sc.
- ✓ Financial support is given to the students and faculty members who present papers in national or international conferences or journals.
- ✓ The new research centre through funding from Sakal Research Foundation and various industries are coming up.
- ✓ Research funding and projects from DST, AICTE, DRDO, etc. were undertaken to pursue research in areas of national thrust. (A list of funded R & D projects received by various departments is presented in Criterion 3).

1.1.5 How does College ensure that the curriculum developed addresses the needs of the society and have relevance to the regional / national developmental needs?

Curriculum up-gradation is done based on the discussions in the department Committee, Board of Studies, Department Academic Board, Academic Council. The formal and informal feedback from Alumni, Employers and local society is analyzed by the department committee and discussed in BoS/DAB and AC meetings. The curriculum is correspondingly framed to address the needs of local as well as global society.

The curriculum of Civil Department takes into account the problems related with environment, water quality, air quality, pollution and includes topic on green ambience while that of Electrical Department focuses few courses on Energy Audit and Energy Conservation. Curriculum of Applied Mechanics gives emphasis on designing cost effective and robust civil structures. The curriculums of CSE and IT department prepare the students to act as software task force while that of Electronics department prepare the students to act as hardware task force for future India to tackle both national and local development.

Recently through MoU signed with John Deere, Bangalore (US based company) , Electronics and Mechanical departments are proposing to tackle the issues related with Agriculture Engineering (The college is located in an area which is supposed to be Agriculture Belt of Maharashtra with sugar, grapes as main crops with number of sugar industries around). Presently two such projects are being worked out. Similarly, a interdisciplinary project of Rasin Making is being carried out with sponsorship from BARC, Mumbai. This will be advantageous for grape cultivating farmers.

A course on Environmental Studies is a institute core for UG students. The faculty of this course prepares a list of societal problems from Environment point of view. The student groups (maximum three students in a group) are given a choice to select a problem, go to a site to study it in detail and submit a report on the same. The students are evaluated for their work, professional skills (team work, communication skills) and their concern to society and environment by arranging a viva-voce on the report submitted by them. Besides this, some of the main projects carried out by UG and PG students in the various departments address the need of the society.

1.1.6 To what extent does the College use the guidelines of the regulatory bodies for developing or restructuring the curricula? Has the College been instrumental in leading any curricular reform which has created a national impact?

- ✓ College follows the guidelines prescribed by AICTE.
- ✓ The comparison of current curriculum of all Engineering with that recommended by AICTE is as depicted in the Table 1.3.
- ✓ While finalizing the curriculum, it is confirmed that all the aspects as per the program specific criteria recommended by International Professional bodies (e.g. IEEE for Electrical and Electronics, ASME for Mechanical Engineering,

ASCE for Civil Engineering, CSAB for Computer Science and Engineering and IT department) are taken into consideration

Table 1.3 : Curriculum Components in Percentage (AICTE & WCE)

Suggested Break down of credits as per guideline from AICTE for UG B. Tech. Programme							
Category	Course Work Subject Area	Number of Theory and Lab Courses	AICTE Suggested Credits	WCE Credits with New Structure	AICTE Category Component Range in %		WCE Category Component Range in %
					Min	Max.	
HS	Humanities and Social Sciences *(HS), Management*	3	14	10	5	10	5.7%
BS	Basic Sciences*(BS) including Mathematics,*	7	30	26	15	20	14.8%
ES	Engineering Sciences *(ES), including* Materials, Workshop, Drawing, Basics of Electrical/ Electronics/ Mechanical/ Computer engg.etc	15	30	31	15	20	17.6%
PC	Professional Subjects-Core *(PC), relevant to* the chosen specialization/branch; *(May be split into Hard (no choice) and Soft(with choice), if required;*	30	50	60	30	40	34.1%
PE	Professional Subjects – Electives *(PE),* relevant to the chosen specialization/ branch;	8	20	24	10	15	13.6%
OE	Open Subjects- Electives *(OE), from other* technical and/or emerging subject areas;	3	12	9	5	10	5.1%
PR	Project Work, Seminar and/or Internship in Industry or elsewhere.	5	20	16	10	15	9.1%
MC	Mandatory Courses *(MC);* NSS ,Industrial Visits ,Team Building Activities,Specialized Skill workshop , Project Management Etc.	0					
		71	176	176			100.0%

- ✓ The Basic and Engineering Sciences including Mathematics and Basic Computing (generally included in the first year of Engineering and is common to UG programs) is to a level of 25-30% in terms of number of credits. The Professional Core and Professional Electives courses are to a level of 45-50%. Enough emphasis is given to Design related courses in all the programs.

- ✓ The percentage wise contribution of courses on Project, Humanities and open

electives is to a level of 10%, 5% and 8-10% respectively.

- ✓ As per the guidelines of UGC and university, the mandatory courses on Environmental Science and Engineering Economics and Industrial Management are included in the curriculum.
- ✓ The curriculum also includes non credit courses such as Industrial Visits, Case Studies, NSS activities, Team Building activities and specialized skill based programs etc.
- ✓ The college has been instrumental in leading curricular reform in terms of :
  - Offering interdisciplinary courses from the third year.
  - Allotting the eighth full semester for UG project, preferably in industry or Research College.
  - Introducing Research Methodology and Project management as college core subjects in PG curriculum.
  - Offering more electives in UG and three electives in PG program.
  - Relative grading scheme.

1.2 Academic Flexibility

1.2.1 Give details on the following provisions with reference to academic flexibility

a. Core/Elective Options:

Professional Core Courses (UG):

Professional Core and Professional elective course offered by each department are as per AICTE guidelines. Core courses include all the basic and higher level courses of corresponding program besides those required as per the Program Specific Criteria of corresponding international professional body. This establishes the equivalence of the graduate of this institute with any other related engineering graduate anywhere in the world.

Inter-departmental Elective Courses (Open Elective) at UG:

The college provides academic flexibility to the students by offering interdisciplinary courses called as open electives from the fifth semester onwards till seventh semester. These electives have been formulated based on the prevailing trends and cutting edge technologies. This allows students to choose the courses of their choice from any other department excluding parent department. This enables the student to acquire breadth of knowledge from other engineering programs to be more useful to solve the real

world engineering problems.

Professional Elective Courses at UG:

The academic flexibility is also extended from the fifth semester onwards to choose two electives from a pool of electives offered by the department. Professional elective courses are program specific courses but are part of specialization in that program. This enables them to acquire in-depth knowledge of the specialized area of the concerned engineering discipline of their choice. These courses can be offered and can be altered by the BoS from time to time as per the trends in industries.

Choice for Project (UG)

The students are given option in the eighth semester to carry out their final year project in the industry or research institute or any other reputed academic college *OR* in the department for the full term. The former option gives exposure to the students of industrial/research environment and helps them broaden their perceptions and views.

Professional Core Courses (PG):

Three core courses in each semester are offered to PG students making a cumulative of six (course work is of only two semesters) professional core courses. It is expected that the PG students of a particular program must have in-depth knowledge of generally expected courses of that program irrespective of specialization in the chosen program.

Professional Elective Courses at PG:

For PG students, academic flexibility is extended by offering one elective in the first and two electives in the second semester as per their choice for specialization in sub-area of the chosen discipline.

Mandatory Courses at PG:

Research Methodology and Project management are the credit courses, one in each semester and mandatory for all PG students. These courses guide the students to approach the research problem in an scientific manner and develop the project management skills to plan and execute any task. The other skills expected to be

achieved through these mandatory courses are communication skills (both oral and written), professional skills, problem solving skills, time management etc.

Open Electives (OE):

An option of selecting one open elective offered by other department will be provided to PG students from academic year 2015-16 in order to enable them to implement multidisciplinary approach in dissertation. A list of such courses proposed to be offered include: Neural Networks and Fuzzy Logic, Genetic Algorithms, Optimization Techniques, Linear Algebra & Statistics, Probability & Random Variables, Wavelet Transform, Robotics & AI, Automotive Electronics, Thermal Engineering, Linear and Non-linear Control, Image Processing, Cyber Security, Multimedia Techniques, Remote Sensing and Data Analysis, Database Management Systems, Android OS Development, Product life Cycle Management etc.

b. Enrichment Courses :

Depending on the skills needed for employability and for successful professional career, department offers tailor made courses for the enrichment of students. These courses help the students to acquire technical skills, personality development and knowledge of contemporary issues in their own branch. A list of such courses include: Courses on CAD-CAM, PLM, CATIA, Micro machining by Tata Technology, Advanced courses on Image Processing by Silicon Machines, Pune. Courses on PLC and SCADA by Educate Automate Pune etc. Besides this, PG students are given an opportunity to attend the courses on various areas through IIT's National level Outreach Program conducted jointly by IIT Mumbai and IIT Khargapur. So far, the courses on Research Methodology, Control Systems, Signal & Systems, Thermodynamics, and Database Engineering etc have been attended by them.

Dissertation at (PG):

In case of PG students, dissertation work is for the entire second year of their M. Tech. program. The student can opt for carrying out the dissertation work in Research Organization such as DRDO, CSIR, HAL, NAL/IIT-IISc, BEL or industry such as ST-Micro-Electronics, Delhi, John Deere, Pune, Kirloskar Brothers, Pune, Sankalp Electronics, Hubli etc. Many students work at the institute for carrying out their dissertation. It is expected that students publish at least one paper in journal or conference at national/international level.

c. Credit transfer and accumulation facility

Currently, there is a provision for credit transfer and accumulation facility with other autonomous colleges of the state (VJTI Mumbai, SGGS Nanded, COE Amaravati , Pune, VNIT Nagpur , BATU Lonere etc.). This is proposed to be implemented from academic year 2015-16.

The students who had failed in the course or obtained DD or CD grade in the course can re-register or appear for make-up examination (generally held within one month after declaration of ESE results) for grade improvement. Drop out students of a program can rejoin the same programme with the earlier credits earned in the subjects and reregister for remaining courses with the approval from HoD of the department and Dean Academic section. If there is change in the structure, students are required to register for equivalent course or for courses as per the new structure.

d. Lateral and vertical mobility within and across programmes and courses

Lateral entry to Diploma students is allowed at the second year of the UG program
Vertical entry in other program through branch transfer is allowed at the second year of the UG program.

Institute had initiated minor course certification program for the two consecutive years from 2012-13 wherein, a student with CPI > 6.5 of one UG program could register, in each semester from fourth semester onwards, one course offered by other UG program. The credits earned through such minor courses were considered over and above the regular program requirement. This provided mobility of few bright students across various programs within the institute. To eliminate this discrepancy between students, a new policy for all UG students to register open electives of other departments from fifth semester onwards is proposed to be implemented from academic year 2015-16.

It is proposed to offer summer courses (delivered by the resource persons from parent institute or other institute or industry) in the summer vacation of current academic year open to students of all programs with a view that interested students can learn the value addition courses of their own choice during vacation . The credits earned through such courses are considered over and above the regular program requirement. Though such lateral or vertical mobility has not been provided to PG programs so far, it is proposed that student can opt for one open elective of other department from academic year 2015-16.

1.2.2 Have any courses been developed specially targeting international students? If so, how successful have they been? If 'no', explain the impediments.

'No', at present no such courses have been developed specially targeting international students. College proposes to do so after establishing the credibility (ranking within 20) at National level and after getting Deemed University status.

1.2.3 Does the College offer dual degree and twinning programmes? If yes, give details.

No, college does not offer dual degree and twinning programmes since as per guidelines of Parent University. College proposes to do so after getting the Deemed University status.

1.2.4 Does the College offer self-financing programmes? If yes, list them and indicate if policies regarding admission, fee structure, teacher qualification and salary are at par with the aided programmes?

All PG programs are self financing. But admission is through centralized state level.

1.2.5 Has the College adopted the Choice Based Credit System (CBCS)? If yes, how many programmes are covered under the system?

College has not yet adopted Choice Based credit System. The minimum number of credits to be earned for completing any year of the program and the entire program is fixed currently. It is already planned for implementation from 2015-16.

1.2.6 What percentage of programmes offered by the College follows semester system?:

100% semester system is implemented by the college for all its UG and PG programs. The college is planning to have summer term and credits earned will be considered in the CPI of the students.

1.2.7 What is the policy of the College to promote inter-disciplinary programmes? Name the programmes and what is the outcome?

Inter-disciplinary programs are identified based on the thrust areas declared by the State and Central government, employment potential and societal requirements. Mechatronics is one of such program identified by the college which management wants to promote at PG level. The outcome of this program will be providing the knowledgeable work force in combined areas of Mechanical Engineering and

Electronics to cater the requirements of industries implementing mechanical machine based automatic manufacturing.

No interdisciplinary program has been floated for UG, though students have flexibility to opt for interdisciplinary courses to a level of 1 course per semester from V semester upto VII semester.

PG program in CSE with IT specialization is an interdisciplinary programme between IT and CSE while PG program in Structural Engineering is an interdisciplinary program in Civil and Applied Mechanics department.

1.3 Curriculum Enrichment

1.3.1 How often is the curriculum of the College reviewed for making it socially relevant and/or job oriented / knowledge intensive and meeting the emerging needs of students and other stakeholders?

Curriculum of UG and PG programmes are reviewed and revised periodically based on the needs of the stakeholders. Minor changes in courses, if required, are implemented per semester depending upon the gap analysis of the targeted and attained course outcomes. Major modifications/revisions (e.g. structure of the syllabus) are generally carried out once in three years. In few cases such modifications would be carried out even during three years period to satisfy the emerging needs of the students and other stake holders through additional elective courses after completing the formalities of DAB approval followed by AC approval. At present there are two major revamped taken places. At present our curricula are outcome based education in line with NBA and ABET requirement.

1.3.2 How many new programmes have been introduced at UG and PG level during the last four years? Mention details.

There is only one new PG program viz. PG in CSE with specialization in IT has been introduced since 2012-13 .

1.3.3 What are the strategies adopted for revision of the existing programmes? What percentage of courses underwent a major syllabus revision?

The strategies adopted for revision of the existing programme are as follows:

- ✓ Analysis of feedback from students and subject experts
- ✓ Reference to syllabi of nationally reputed academic colleges such as IITs.
- ✓ Reference to guidelines on model Curriculum by AICTE
- ✓ Outcome Based Education as per requirement of NBA and ABET
- ✓ Formal and informal suggestions by experts from industries and Academic council members.
- ✓ Review of global scenario through interaction with International experts
- ✓ Installation of learning management system for monitoring and communication with students and faculty.
- ✓ Emphasis on activity based learning
- ✓ In-house Software development for Flawless Question paper setting and result processing with relative grading .

About 50% courses underwent a major syllabus revision in last three years. 100% courses underwent a revision for properly defining the course objectives, course outcome and their mappings to program outcomes in view of national thrust on Outcome Based Education philosophy. Evaluation of attainment level is made mandatory for each course.

1.3.4 What are the value-added courses offered by the College and how does the College ensure that all students have access to them?

One of the mission statement deals with inculcating values and ethics in the students. The college believes that if the environment in which student spends most of his time is spiritual with dedicated people around, then the impression which is going to last on their mind is the reflection of that ambience. Ganesh Temple in the campus, a grand statue of Devi Saraswati in front of (second to none) library, the cultured and ethical behavior of all faculty members, office and non-teaching staff and the traditionally simple culture of the town indirectly imparts values and virtues in the students. No special courses are included as a part of curriculum to imbibe values in the students.

1.3.5 Has the College introduced any higher order skill development programmes in consonance with the national requirements as outlined by the National Skills Development Corporation and other agencies?

NSDC (National Skill Development Corporation) with CII (Confederation of Indian

Industries) has come out with a list of fields requiring skilled personnel. These include: Corporate Training, Vocational Education and Training, Pedagogical Training for Conventional Educational Institutes, Global Employability. It is proposed to offer few certified skill development programs for the benefit of students of local community to join hands with NSDC through Standard Training and Assessment Reward Scheme (STAR) of Central Government.

The institute is already engaged in the latter two areas by allowing the faculty to attend FDPs on Pedagogy so that modern ways of teaching can be implemented in teaching for effective learning by the students. Institute is also engaged in organizing many soft skill development programs for UG and PG students to enhance their employability by other agencies.

Tata Technologies has started w.e.f. 2014-15 on campus, a separate cell, by which students and faculty are trained to improve their skills in 'PLM'. The trainings are held by experts from Tata Technologists.

Through Coursera & EdX, few students and faculty have been trained and certified accordingly for skill improvements. IUCEE Webinars are well participated online by faculty and students for awareness enrichment and skill development of individuals.

The efforts currently being taken by the institute to improve the skills of the students are as below:

- ✓ The college conducts competitions and workshops on prototype development through a) workshops on circuit simulation and circuit building, b) mini-projects, 3) competition on Robot Design etc. to enhance knowledge and skills of the students.
- ✓ Students are encouraged to participate in competitions held by Texas Instruments, India, Indian Institute of Technology, Mumbai, and other engineering colleges to test their capabilities in design, development and fabrication of electronic circuits/systems.
- ✓ Students are encouraged to design and fabricate small electronic gadgets and build experimental set-ups for laboratories to enable them to develop their entrepreneurial skills.
- ✓ Students are encouraged to take their final year project (UG) or PG dissertation in the industry to get the exposure to industry environment besides obtaining technical skills.

1.4 Feedback System

1.4.1 Does the College have a formal mechanism to obtain feedback from students regarding the curriculum and how is it made use of?

Yes, the college does have a mechanism to obtain feedback from students regarding curriculum delivery. On line mid-semester feedback is taken on Learning Management System (LMS) for all the courses in that semester. The access to the feedback analysis is provided to concerned faculty member and HoD. In case of poor feedback for a course or faculty, a Counseling Committee under the Chairmanship of Director holds a discussion in person with the concerned faculty to pinpoint the causes and suggests a corrective action.

A course faculty collects the feedback from the students on attainment of course outcomes of the course delivered by him/her. A feedback analysis for this Course Exit Report is done by the faculty himself. A rigorous analysis on that directs for the strengths and weaknesses of that course so that modifications in content or delivery or assessment can be carried out in the subsequent versions.

A separate Graduate exit feedback is collected from the graduating students for their satisfaction on the attainment of program outcomes, the contents of curriculum and in general infrastructure of the department. Their genuine suggestions are taken into consideration while revising the contents of the curriculum,

Feedbacks from alumni and employer are also collected to compute the attainment of Program Educational Objectives. The informal discussions with them also are taken into consideration to revise the curriculum, lab facilities, central facilities etc. A thrust is given to identify the areas where graduates failed to perform as per expectations of the employers.

1.4.2 Does the College elicit feedback on the curriculum from national and international faculty? If yes, specify a few methods adopted to do the same - (conducting webinar, workshop, online forum discussion etc.). Give details of the impact on such feedback.

Yes, the college does elicit feedback on the curriculum from the faculty of IITs and

other autonomous colleges in the state. In fact, few of the members of Academic Council of the college are from IIT, Mumbai.

Prof. Luney Morell, John Lamankusa are the US mentors for guiding curriculum revamping of the college. Three 5-days workshops were conducted on curriculum design in last three years and their guidelines have been taken into consideration while finalizing the revamping of curriculum.

All faculty of the institute are currently the members of IET, UK. The interaction of the faculty members with IET members (inland and foreign) is expected to provide guidelines on curriculum development over a period of time.

1.4.3 Specify the mechanism through which alumni, employers, industry experts and community give feedback on curriculum enrichment and the extent to which it is made use of.

Mechanism for feedback:

- ✓ Online alumni feedback form
- ✓ Online employer feedback form
- ✓ Feedback obtained at annual alumni meet at the college.
- ✓ Oral feedback from employer and industry during informal meets or during their visits to institute for campus interviews
- ✓ Oral feedback during informal meets with local stakeholders
- ✓ Oral feedback from parents during parent meet held every year.

Any feedback received from any of the stake holders is analyzed critically. The valid points of improvement from all feedback reports are prioritized in terms of their relevance and importance and are taken into consideration for revising the curriculum, laboratory facilities, infra-structure etc..

1.4.4 What is the quality sustenance and quality enhancement measure undertaken by the institution in ensuring effective development of the curricula?

The responsibility of assuring the quality of education lies with Internal Quality Assurance cell (IQAC), however the responsibility of sustaining and enhancing the quality of education lies with each stakeholder of the institute. IQAC consists of one member from each department with Dean RDQA chairing the cell. Though internal audit takes place by this cell every semester to ensure the quality of all academic

practices, the college believes in the philosophy that "*Quality is built-in and not added upon by testing*". Hence the college continuously strives hard to set the academic systems by means of use of Information and Communication Technology (ICT) in such a way that quality automatically gets built into the product.

As far as ensuring and enhancing quality of curriculum is concerned, Dean Academics through Dean Academic Coordinators (DACs), one from each department, informs and the college level academic policies and any other related input to the HoD and all faculty members of their department. These policies along with the feedback analysis report (feedback report obtained from different stake-holders) on the effectiveness or deficiencies of curriculum and infrastructural facilities are discussed in the department weekly meeting, followed by discussions in DAB meetings involving external stake holders. The proposals of DAB regarding either sustaining or enhancing quality of curriculum are then ratified in AC meeting. Care is taken to confirm that the curriculum takes care of Program Specific Criteria and is never single faculty dependent.

Ultimate aim of the curriculum of the various programs of the the institute is to transform teaching learning process in to practicing school or learning factory to produce capable graduate engineers with aptitude for research and leadership

CRITERION II: TEACHING-LEARNING AND EVALUATION

2.1 Student Enrolment and Profile

2.1.1 How does the College ensure publicity and transparency in the admission process?

Maharashtra State Directorate of Technical Education offers wide publicity to effect admissions in various colleges/ branches of the state for M. Tech,/M.E. and B. Tech. programmes. State Board of Technical Education, Govt. of Maharashtra gives publicity to effect admissions into various colleges/branches of the state polytechnic programmes. Since the college is Govt. aided, the admissions to all programmes of the college including Ph. D. (under QIP) are through government.

Detailed information regarding admissions for UG, PG and Ph D programmes is displayed on the following websites besides the website of the institute.

Table 2.1: Information Regarding Admission

Sr. No.	Programme		Website	Site maintained by
1	Ph. D.	Doctorate	www.walchandsangli.ac.in	Central Computing Facility(CCF)
2	PG	Post-graduate	www.walchandsangli.ac.in www.dtemaharashtra.gov.in/me2014	(CCF) MSDTE Office
3	UG	Under-graduate	www.walchandsangli.ac.in	Central Computing Facility(CCF)

The websites provide all information pertaining to admissions viz. Eligibility Criteria, Admissions procedure, documents to be submitted by the candidates in support of their claim for admission under different categories, fee structure etc.

The information regarding admissions is also disseminated through National and regional newspapers and by inviting parents and students to attend the student counseling organized by the college on behalf of the Government. The flying announcement is also flagged on the college website walchansangli.ac.in during the period of admissions. Besides the admission office of the college courtisiously supports

the students and the parents before and during admission period by addressing any enquiry they may raise.

Wide publicity and maintenance of transparency is thus the joint responsibility of DTE, Board of Technical Education and Shivaji University, Kolhapur.

2.1.2 Explain in detail the process of admission put in place for UG, PG and Ph.D. programmes by the College. Explain the criteria for admission (Ex. (i) merit, (ii) merit with entrance test, (iii) merit, entrance test and interview, (iv) common test conducted by state agencies and national agencies (v) others followed by the College?

UG admissions:

Students to UG programme offering B. Tech. degree are admitted through following three categories.

Category 1: Admission after passing 12th examination and state level Common Entrance Examination.

MSDTE has set the well tested regulations for admission of students to various colleges/branches. The detail procedure is as follows:

- ✓ Issue of notification- published in the leading Newspaper and websites http://www.dte.org.in
- ✓ Availability of online prospectus and applications
- ✓ Filling of Online Application Form for Centralized Admission to Engineering/Technology by eligible candidates
- ✓ Conducting the CET and publishing the results.
- ✓ Publishing counseling dates and schedule on the websites as well as in newspapers.
- ✓ Document Verification & Confirmation of Online Application form at Application Form Receipt Centers (ARCs)
- ✓ Display of Provisional Merit List of candidates who have confirmed the online Application Form on website www.dtemaharashtra.gov.in/fe2014.
- ✓ Submission of Grievances (if any) at ARC
- ✓ Display of Final Merit List of candidates on website.
- ✓ Filling and Confirmation of Option form for Round I by candidate through his/her Login.
- ✓ Display of Allotment of CAP Round I on website.
- ✓ Reporting to respective Institutes as per allotment of CAP Round I
- ✓ Filling of Online Option Form for CAP Round II by candidate through his/her Login.
- ✓ Confirmation of Option form for Round II by candidate through his/her Login
- ✓ Display of Allotment of CAP Round II on website.

- ✓ Reporting to respective Institutes as per allotment of CAP Round II
- ✓ Filling of Online Option Form for CAP Round III by candidate through his/her Login
- ✓ Display of Allotment of CAP Round III on website.
- ✓ CAP Round IV by counseling and reporting to respective Institute.

Category 2:

Direct admission to Second Year of UG programme for diploma passed students.

There is a provision for Diploma Degree holders for admission in the second year of the B. Tech. Program (20% seats) under Lateral entry scheme. The admission is based on the marks obtained in Diploma examinations conducted by Maharashtra Board of Technical Education. These admissions also are governed centrally at the state level, the detail information of which is available in the website http://www.dte.org.in

Branch Transfer:

The admissions to second year of a particular branch are exercised by the college for the eligible and desiring students in case there is vacancy due to year down students in the first year examinations. The rules for this are published on the college website http://walchandsangli.ac.in as academic Rules and regulations document.

PG Admissions:

MSDTE has set regulations for admission of students to various PG programmes at colleges. The details about sequence of steps to be followed are listed below.

- ✓ Filling up and submission of "Online Application form" provided on the web site http:// www.dtemaharashtra.gov.in AND Document verification and in-person confirmation of application form at ARC for GATE candidates (sponsored/Non-sponsored category)
- ✓ Declaration of Provisional merit lists for all GATE candidates. (Sponsored and Non-sponsored)
- ✓ Submission of grievance applications, if any, at ARC
- ✓ Display of Final Merit Lists on website http:// www. dtemaharashtra.gov.in
- ✓ Display of Institute wise Seat Distribution for Round I (Sponsored/Non sponsored & NRI)
- ✓ Online Submission and Confirmation of Option form for CAP Round I by all GATE (Sponsored and Non-sponsored), candidates
- ✓ Revised Allotment of Sponsored/Non Sponsored category seats to candidates (Round 1)
- ✓ Reporting and Securing Admission by the Sponsored/Non-Sponsored

candidates and at the revised allotted institutes.

- ✓ Display of Institute wise vacant seats for CAP Round II arisen due to non-reporting/non-allotment of CAP Round I
- ✓ Display of Institute wise vacant seats for CAP Round II arisen due to non-reporting/non-allotment of CAP Round I
- ✓ Online Submission and Confirmation of Option form for CAP Round II by all GATE (Sponsored and Non-sponsored), candidates
- ✓ Allotment of Sponsored/Non-Sponsored category seats to candidates (Round II)
- ✓ Reporting and Securing Admission by the Sponsored/Non-Sponsored candidates at the allotted institutes.
- ✓ Display of Institute wise vacant seats for CAP Round III by Counseling arisen due to non-reporting/non-allotment of CAP Round II
- ✓ Round of admission by counseling (CAP Round-III) in person at DTE specified CAP center
- ✓ Reporting to the institute as per allotment in Counseling Round (CAP Round-III)

Ph. D. Admission

Admissions to Ph. D. programme are carried out as per rules and regulations stipulated by Shivaji University Kolhapur as regular Regular research Student. The details about process are available on website www.unishivaji.ac.in

Admissions to Ph. D. programme under QIP scheme are carried out by office of Principal Co-ordinator (QIP) (currently IIT Kanpur) as per rules and regulations stipulated by AICTE for QIP research Students.

2.1.3 Does the College have a mechanism to review its admission process and student profiles annually? If yes, what is the outcome of such an analysis and how has it contributed to the improvement of the process?

Yes, the college does have a mechanism to review its admission process and student profiles annually. Such data is discussed in College Development Committee meetings and presented in Academic Council. The measures to attract better cream of students are discussed and implemented every year.

2.1.4 What are the strategies adopted to increase / improve access to students belonging to the following categories?

- ***SC/ST***
- ***OBC***
- ***Women***
- ***Different categories of persons with disabilities***
- ***Economically weaker sections***

* ***Outstanding achievers in sports and extracurricular activities***

- ✓ Admissions are done as per state Government reservations policies prevailing at the time of admission.
- ✓ Separate counseling sessions are conducted for OBC/SC/ST students with different cut off marks. Details regarding schemes of Government for financial assistance to such students also are explained.
- ✓ As per Government admission rules certain fix percent of quota is reserved for girl students in every branch of the college.
- ✓ Special counseling sessions are conducted for the persons with physical disabilities and also for those who are outstanding achievers in sports and extra-curricular activities.
- ✓ Economically weaker section students are given counseling regarding various government schemes of financial assistance and also about the Bank Loan facility to aid them for higher education.

2.1.5 Furnish the number of students admitted in the College in the last four academic years.

Table 2.2: UG Programme: Regular Admissions

UG Program	Categories	Year 1 2014-15		Year 2 2013-14		Year 3 2112-13		Year 4 2011-12	
		Male	Female	Male	Female	Male	Female	Male	Female
Civil Engineering	SC	3	2	5	3	5	2	4	2
	ST	2	2	3	1	3	1	1	0
	OBC	9	3	11	3	10	5	12	4
	General	19	14	18	10	25	4	24	10
	Others	7	2	7	2	5	3	5	2
Mechanical Engineering	SC	5	1	5	1	6	2	7	2
	ST	3	1	3	1	4	0	1	0
	OBC	9	4	11	3	6	3	8	3
	General	19	8	23	8	27	7	25	7
	Others	8	4	5	3	6	2	8	4
	Others	7	2	7	2	5	3	5	2
Electrical Engineering	SC	5	1	8	2	6	2	7	2
	ST	4	1	3	1	4	0	1	0
	OBC	9	2	9	4	6	4	12	4
	General	22	10	20	7	22	9	21	9
	Others	6	5	8	2	7	3	7	2

Electronics Engineering	SC	5	2	5	2	5	3	5	2
	ST	3	1	1	2	3	1	0	0
	OBC	9	4	7	4	9	2	11	5
	General	21	10	22	11	15	15	20	12
	Others	6	3	5	4	6	4	4	5
Computer Science and Engineering	SC	1	1	6	3	8	4	7	4
	ST	7	4	5	1	3	2	0	0
	OBC	10	7	15	5	7	3	16	8
	General	35	12	31	17	32	18	32	11
	Others	9	5	6	6	7	11	14	3
Information Technology	SC	7	1	6	2	5	3	4	1
	ST	3	0	3	0	2	1	0	0
	OBC	5	3	6	3	4	6	6	7
	General	25	10	22	12	20	15	18	21
	Others	4	5	5	4	4	3	3	5

Table 2.3 : UG Programme : Lateral Entry

UG Program	Categories	Year 1 2014-15		Year 2 2013-14		Year 3 2112-13	
		Male	Female	Male	Female	Male	Female
Civil Engineering	SC	1	1	1	2	1	0
	ST	1	0	1	0	0	1
	OBC	1	0	1	2	2	2
	General	0	0	0	3	3	0
	Others	7	2	2	0	2	1
Mechanical Engineering	SC	1	1	0	1	1	0
	ST	1	0	0	0	1	0
	OBC	1	1	4	1	1	2
	General	2	1	5	0	4	1
	Others	3	1	1	0	2	0
Electrical Engineering	SC	1	1	1	0	1	1
	ST	0	1	1	0	1	0
	OBC	0	2	0	2	2	1
	General	1	1	0	6	4	2
	Others	2	4	1	1	0	0
Electronics Engineering	SC	1	1	0	1	1	0
	ST	0	0	1	0	1	0
	OBC	0	4	0	4	0	3
	General	0	1	0	5	2	2
	Others	0	5	1	0	1	2
n c e a	SC	1	1	2	0	2	1

	ST	0	1	1	1	1	0
	OBC	3	3	0	4	1	5
	General	0	0	1	7	1	6
	Others	1	8	0	2	0	1
Information Technology	SC	1	2	1	3	2	1
	ST	2	0	1	1	1	0
	OBC	2	1	3	1	4	1
	General	0	5	2	11	4	6
	Others	3	10	0	5	1	2

Table 2.4: Admissions to PG Programs

PG Program	Categories	Year 1 2014-15		Year 2 2013-14		Year 3 2112-13		Year 4 2011-12	
		Male	Female	Male	Female	Male	Female	Male	Female
Env. Engg. (CE)	**SC**	1	1	0	1	0	0	0	1
	ST	0	0	0	0	0	0	0	0
	OBC	1	2	1	2	0	0	0	1
	General	8	4	6	5	5	7	5	4
	Others	1	0	1	1	0	0	0	0
Structural Engineering (APM)	SC	3	0	2	1	1	0	0	0
	ST	1	0	0	0	0	0	0	0
	OBC	7	1	2	1	2	0	0	0
	General	11	4	10	0	6	2	7	2
	Others	3	0	1	1	1	0	2	1
Design (ME)	SC	2	0	5	0	3	0	2	0
	ST	2	0	0	0	0	0	0	0
	OBC	7	1	3	0	4	0	1	0
	General	16	1	17	0	3	0	8	1
	Others	1	0	5	0	1	0	0	0
Production (ME)	SC	1	0	5	0	1	0	2	0
	ST	1	0	0	0	0	0	0	0
	OBC	2	1	4	0	5	0	6	0
	General	21	1	7	1	10	0	9	0
	Others	2	1	1	0	2	0	1	0
Heat and (ME)	SC	1	0	2	0	3	0	2	0
	ST	0	0	0	0	0	0	0	0
	OBC	5	0	3	0	2	0	1	1
	General	7	1	8	1	6	0	6	0
	Others	4	0	4	0	1	0	2	0
trol Syst ems	SC	2	1	4	0	3	1	1	0
	ST	0	0	0	0	0	0	0	0

PG Program	Categories	Year 1 2014-15		Year 2 2013-14		Year 3 2112-13		Year 4 2011-12	
		Male	Female	Male	Female	Male	Female	Male	Female
	OBC	3	0	3	2	0	0	1	1
	General	5	3	7	2	3	3	6	2
	Others	4	0	0	0	0	2	1	0
Power Systems (EE)	SC	2	0	2	0	2	1	5	0
	ST	0	0	0	0	0	0	0	0
	OBC	3	1	4	1	2	1	0	0
	General	9	1	9	1	4	1	5	2
	Others	2	0	1	0	1	0	0	0
Electronics Engineering Eln Engg)	SC	5	0	6	0	3	0	3	0
	ST	2	0	0	0	0	0	0	0
	OBC	4	3	5	2	2	2	4	0
	General	7	4	11	3	9	0	7	3
	Others	3	3	3	0	2	0	0	1
Computer Science & Engg. (CSE)	SC	2	1	1	0	3	0	3	1
	ST	0	1	1	1	0	0	0	0
	OBC	6	1	8	1	4	0	4	0
	General	7	9	7	2	5	3	7	1
	Others	3	0	7	2	2	1	0	2
CSE (IT Specializatio n)	SC	3	2	3	0	2	0	0	0
	ST	0	0	0	0	0	0	0	0
	OBC	4	1	1	1	4	3	0	0
	General	5	2	7	2	3	2	0	0
	Others	1	0	4	0	2	1	0	0

2.1.6 Has the College conducted any analysis of demand ratio for the various programmes offered by the College? If so, indicate significant trends explaining the reasons for increase / decrease.

The admissions to the engineering programs are done centrally through Directorate of Technical Education (UG, PG programs) while through office of Principal Co-coordinator under QIP program for Ph D program. The college has information about the number of students admitted to Diploma, UG and PG programs; however no idea about the number of applications received by the corresponding admission authorities. Hence demand ratio cannot be indicated in the following tables. Since the applications for Ph D program are received directly by the college academic office, the demand ratio for these programs in various departments is indicated in the following table.

There is no increase in the intake capacity of UG programs in last four years. However

the college observed a general trend of many graduates (BE/B.Tech.) to opt for higher studies. Hence the increase in intake for various PG programs was enhanced from 126 (2011-12) to 240 (2014-15) as given in table below.

Table 2.5 : Details of PG Intake

PG Intake: Yearwise				
Branch	**2011-12**	**2012-13**	**2013-14**	**2014-15**
Civil (Env.)	12	12	18	18
Civil (Stru.)	12	12	18	30
Mech. (H & P)	12	12	18	18
Mech (Prod)	18	18	18	30
Mech (Design)	12	12	30	30
Elec. (Power)	12	12	18	18
Elec. (Control)	12	12	18	18
Electronics	18	18	30	30
CSE	18	18	30	30
CSE (IT)	0	18	18	18

The admissions are 100% for all the programs as per sanctioned strength throughout the years.

2.1.7 Was there an instance of the College discontinuing a programme during last four years? If yes, indicate the reasons.

No, none of the programmes of the college has been discontinued in last four years. In fact, the number of seats for few PG programmers have been increased while a new PG programmes in CSE with IT specialization has started since 2013-14.

2.2 Catering To Student Diversity

2.2.1 Does the College organize orientation / induction programme for freshers? If yes, give details of the duration of programme, issues covered, experts involved and mechanism for using the feedback in subsequent years.

Yes. The college organizes a one-day orientation programme for all freshers immediately after their admission. The Director of the college addresses the gathering of the freshers and their parents by welcoming and giving brief details about the mission, philosophy, culture and objectives of the institute. The distinctive features of the college as well as teaching-learning methodologies, the various facilities available in the campus to build their personality are explained in detail.

After the Director's address, the freshers in groups (as per department) are taken to

various central facilities like Central Library, Centralized Computing Facility, Workshop, Drawing Hall, Sports facility etc. by the members of corresponding department's Student Associations. After the visit to central facilities, the students admitted to a program assemble in the class room of the department where they are addressed by the Head of the concerned department to inform about the departmental facilities and introduce department faculty members. The students are then taken for round to visit the parent department and the department laboratories.

2.2.2 Does the College have a mechanism through which the "differential requirements of student population" are analyzed after admission and before the commencement of classes? If so, how are the key issues identified and addressed?

At the time of registration, a team of faculty members interact with the students and their parents to get to know the background "of the student and if he requires any special attention. The key issues generally identified are:

- ✓ Some of the students come from rural area and vernacular medium school learning. They lack the confidence and clarity while speaking in English. In general, they lack communication skills.
- ✓ Some of the students are from economically poor background and have financial problems.
- ✓ Some of the students seem to be weak in understanding basic principles associated with engineering courses. This is generally evident from their CET score and the score in Physics, Chemistry and Mathematics.

Remedial Actions Taken:

- ✓ To address the problem of English language, the teachers at times try to explain the courses in regional language (may be for one or two semesters.)
- ✓ To address the problem of communication skills, one semester course with proper credits is included in the curriculum so that students learn technical English and develop communication skills through Language Laboratory.
- ✓ As far as financial problems are concerned, students are informed about various government and non-government schemes and enough guidance is given for applying for financial assistance.

The academically weak students are given personal attention by the faculty of first year by conducting number of extra lectures and holding number of tests, retests so as to improve their understanding.

2.2.3 Does the College have a mechanism through which the the College provide bridge /Remedial /add - on courses? If yes, how are they structured into the time table? Give

details of the courses offered, department-wise/faculty-wise?

Bridge Courses:

Yes, the college does provide bridge courses for the topics having gaps in the syllabus. Generally such gaps are covered by the concerned faculty whenever required (for the purpose of the continuity of the subject matter) during the regular time table hours. This many times leads to lecture execution plan spilling over the actual plan compelling the faculty to engage extra classes in zero hours of the day or on working Saturdays.

Remedial Classes:

- ✓ College has a very good mechanism for continuous evaluation and monitoring the progress of the students. This helps to identify slow learners.
- ✓ Slow learners are given enough assistance during tutorial classes by clarifying their doubts, re-explaining the critical conceptual topics and giving them extra assignments so that these students improve their performance.
- ✓ Some of the faculty uploads their lectures on Moodle to facilitate slow learners to download those and learn at their own pace.
- ✓ The students remaining absent frequently and hence failing in performance are counseled, their parents are consulted and collective efforts are taken by the parents and the institute to see that students attend the classes regularly.
- ✓ National Programme for Technologically Enhanced Learning (NPTEL) Courses is made available on the CCF server which are accessible through wi-fi connectivity from anywhere in the campus.

Following is a sample of few topics being taught by IT department to PG and UG students. The details of such topics being taught by other departments are presented in the evaluative reports of all departments.

Table 2.6 A : Sample of Remedial Classes (IT Department)

PG COURSES	2014-15	2013-14	2012-13
Semester - I			
Advanced Computer Network	NS2 simulation of message passing	Open MP, MPI, Phython Programming	Open MP, MPI, Phython rogramming
Database Design and Performance Tuning	Spatio-Temporal Data-bases, Indexing techniques for it.	Advanced query processing techniques	Information retrieval, Web databases

PG COURSES	2014-15	2013-14	2012-13
Special Topics in Software Design	OpenGL	OpenGL, Building Google drive application for JVM	JRuby implementation of Ruby programming for JVM
Network Security	Snort: case study	Cloud computing security	Cyber security
Information Storage Management	Storage Security and Virtualization	Storage infrastructure monitoring and management.	Storage Security and Virtualization
Advanced software Engineering	Software Engineering web applications	Collaborative Software Development	Software Engineering Internet applications
Semester -II			
Advanced Algorithms	Randomized load balancing and hashing	Online algorithms & competitive analysis	Parallel algorithms
Mobile Ad-hoc and Sensor Network	Data monitoring and mining of sensor data	Security in MANET. MAC protocols for wireless networks	Data monitoring and mining of sensor data
Web Technology	AI & semantic web techniques	1. Xquery, Xpath 2. Google app engine	1. Google app engine 2. AI & semantic web techniques
Computer Vision	OpenCV	MATLAB	--
Geometric Engineering	Spatial analysis, spatial data mining	knowledge discovery, spatial statistics	Spatial analysis, spatial data mining
Visualization Technique	OpenGL, MATLAB	OpenGL, MATLAB	OpenGL, MATLAB

Table 2.6 B : Sample of Remedial Classes (IT Department)

UG COURSES	2014-15	2013-14	2012-13
Discrete Mathematics	Induction Proof	Induction Proof	Types of Proof
Data Structures	Threaded Binary Tree, Data structure for representation big graphical data	Data Structures and Algorithm Analysis	--
Data Communication	Server management and hacking ethics	Packet filtering methods	Latest technology in data communication
Theory of computation	Human Computer Interaction	Decidable Problems	Enumerated Languages
Database Engineering	Comparison of databases(Oracle, IBM, Microsoft, MySQL)	Advanced query processing techniques	Deductive databases
Software Engineering Design	Collaborative Software Development	SRS Case studies	Umbrello
Information storage management	Computer Network concepts Operating System review	Computer Network concepts Operating System review	Computer Network concepts Operating System review
Cryptography and n/w Security	IPR generation	Honey Net	WireShark (Packet Capturing)
Mobile Ad-hoc Networks and Sensors	Data monitoring and mining of sensor data	Security in MANET. MAC protocols for wireless networks	Wireless Communication
Geographical Information System	ILWIS – GIS Software	ILWIS – GIS Software	ILWIS – GIS Software

2.2.4 Has the College conducted a study on the incremental academic growth of different categories of students; - student from disadvantaged sections of society, economically disadvantaged, physically challenged and slow learners etc.? If yes, give details on how the study has helped the College to improve the performance of these students.

Yes, the faulty of the college conducts a study on the incremental academic growth of the students of his/her course by monitoring the performance of the students in the internal tests, tutorials, Mid-semester examinations and End-Semester examinations

and also the attendance. The students having poor performance are given assistance as far as their technical doubts are concerned by providing support of text books or literature etc. The poor attendance students are dealt separately to find out the genuine reasons of absenteeism and appropriate remedial action is taken to see that the student becomes regular.

Economically disadvantaged students are given information about various government and non-government assistance schemes and are assisted by college staff to help them to apply for such freeships or scholarships. Students are admitted under AICTE's TFW scheme as per the norms.

Physically challenged students are given all assistance as is required by them. Ramps are provided for the library buildings and all lecture halls and most of the laboratories are on the ground floor of the college

2.2.5 How does the institution identify and respond to the learning needs of advanced learners?

The institute identifies the advanced learners through following processes.

- ✓ Very good performance in internal tests, mid-semester examination and end-semester examination.
- ✓ Active participation and learning during lecture and practical sessions.
- ✓ Performing minimum required experiment and the extension of that during practical sessions.
- ✓ Exhibiting willingness to work on independent projects
- ✓ Willingness to work extra in laboratories after regular hours
- ✓ Participation in student workshops, presenting papers in seminars, attending conferences/workshops/seminars organized in the parent institute or other nearby institutes.
- ✓ Prizes won in co-curricular activities

Strategies adopted to respond to the requirements of advanced learners are as follows:

- ✓ Encourage them to participate in seminars, workshops events organized by the department.
- ✓ Guidance to students for GATE, IES, GRE etc.
- ✓ Helping them to get internship at industries for their projects or dissertations. Motivating the senior students to interact with their juniors for enhancing Training and Placement activities.
- ✓ Students are also motivated to make research contributions in their major project at the UG and PG level and publish their results in journals and also present it at national and international journals/conferences.
- ✓ Resource persons from industries and academic institution are invited to deliver

guest lectures on the advanced topics to give exposure to students regarding current technology and contemporary issues in areas of engineering.

- ✓ Minor programmes are offered by all departments to the students of other departments so that students develop breadth of knowledge in areas other than their own core domain.

2.2.6 How does the institution cater to the needs of differently-abled students and ensure adherence to government policies in this regard?

Following facilities are provided for the differently abled students.

- ✓ Special attention is given to the differently abled students during teaching.
- ✓ Support is provided in learning process by providing extra time, study material, question banks etc.
- ✓ Special arrangements are made during examinations so that they are comfortable (sitting arrangement, writer if required, extra time of half an hour etc.).
- ✓ Lecture halls, examinations halls, hostel rooms are arranged on the ground floor.
- ✓ Ramps or at least hand rails are provided for going to first floor. (Only the office building, CCF, Department of IT, and few laboratories of Electrical and Electronics Engineering department are located on the first floor.)
- ✓ Physically disabled students are provided with scribes.
- ✓ Medical facility is made available in case of emergency.

All other facilities are provided as per the norms of State and Central Government.

2.3 Catering To Student Diversity

2.3.1 How does the College plan and organize the teaching, learning and evaluation schedules? (Academic calendar, teaching plan and evaluation blue print, etc.)

Academic Calendar:

The college prepares the academic calendar for UG and PG separately before the beginning of every semester and is displayed on the department notice boards as well as on the college website. Academic calendar mentions the academic days of delivery, schedule for conduct of mid-semester and end-semester examinations, assessment, submission of attendance defaulter report, declaration of results, other institute level events (co-curricular and extra-curricular) and the holidays.

Teaching Plan:

- ✓ For each theory course, lesson plan is prepared by the concerned faculty to ensure uniform teaching throughout the semester.
- ✓ After approval by HoD/Module co-ordinator, the same is uploaded alongwith a

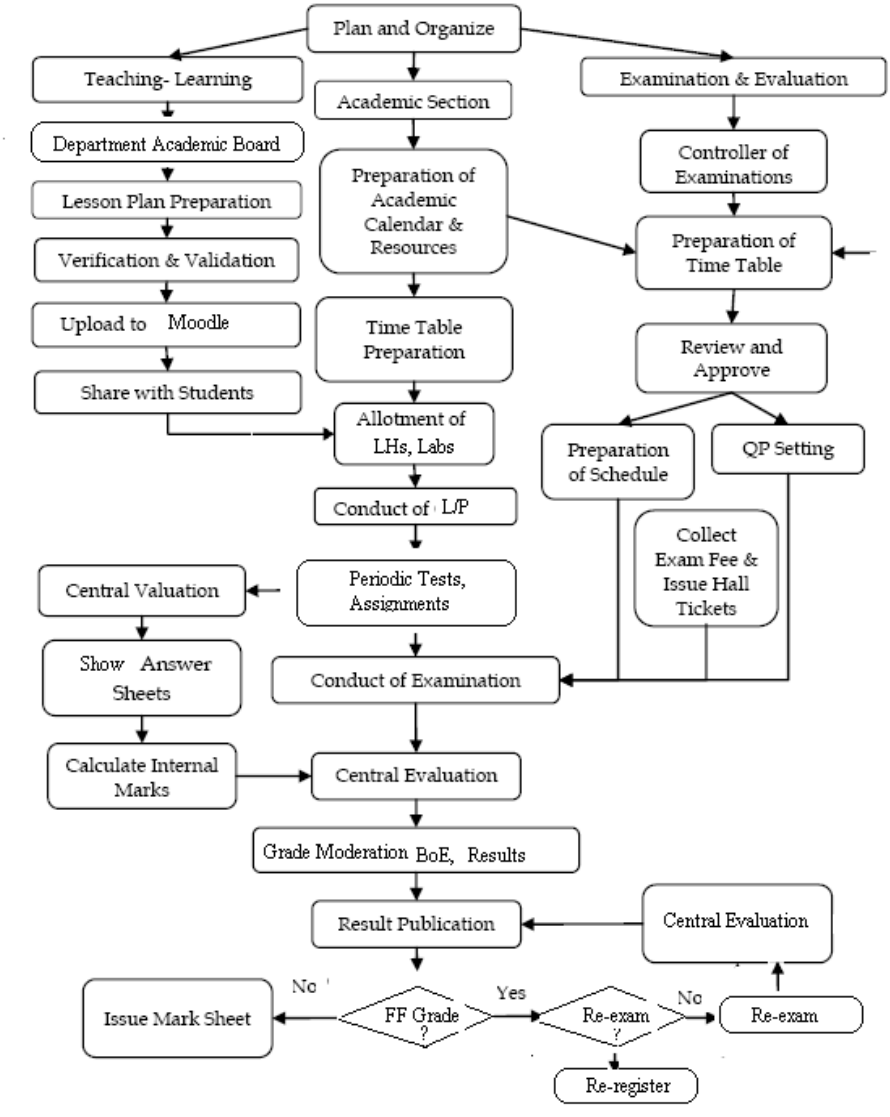
copy of the syllabus on the Moodle.

- ✓ Teaching plan clearly mentions the objectives, and outcomes of the course which students is supposed to achieve at the end of the course.
- ✓ Mid-Course and Exit-course feedback is collected from the students and is analyzed to orient the teaching in such a way that average student attains the outcomes to an expected level.

Evaluation Blue Print: (UG and PG)

- ✓ The evaluation of theory courses is kept transparent. After every evaluation (In-semester, Mid-semester or End-semester), the answer books are shown to the students and are counseled for their mistakes. Any valid discrepancy reported by the student assessment is rectified before finalizing the marks for any of the evaluations.
- ✓ Grade Moderation Committee moderates the grades of the students on relative scale after consulting the concerned faculty and HoD. BoE then issues the results.
- ✓ The students failing to acquire pass grade in any of the courses are permitted to reappear for re-examination conducted before the commencement of the next semester. The evaluation of the answer books of such students is done in the same manner as the usual end-semester examination.

The details of planning and organizing teaching, learning and evaluation schemes are evident from the following flow-chart.



2.3.2 Does the College provide course outlines and course schedules prior to the commencement of the academic session? If yes, how is the effectiveness of the process ensured?

Yes, as explained above, the lesson plan with topic to be covered in a particular class is displayed on Moodle which is accessible to the students. The students come prepared for the classes and raise their doubts during the lecture hours which lead to active learning by the students.

2.3.3 What are the courses, which predominantly follow the lecture method? Apart from classroom interactions, what are the other methods of learning experiences provided to students?

For every theory course, class room lecture method is followed supported by Chalk and Board and LCD projectors. Since the college has adopted Outcome Based Education philosophy, the faculty members are orienting the teaching method towards active learning by students than the traditional way of monolog.

Field visit, Industry visit organized by the departments is also a way of learning. Online courses from NPTEL, MOOC are offered to students.

2.3.4 How 'learning' is made more student-centric? Give a list of participatory learning activities adopted by the faculty that contribute to holistic development and improved student learning, besides facilitating life-long learning and knowledge management.

The entire academic process of planning, delivery and transparent assessment is designed to be student centric. Based on the contents of the topic to be taught in a particular class, the curriculum delivery is a mix of different teaching methods viz. chalk and talk, interactive, group discussions, demonstrations, laboratory sessions, abstract concepts through animations, video lecturing etc.

The participative learning activities implemented by the faculty include :

- ✓ By allotting first 5-7 minutes of the lecture to revise the contents covered in the last lecture by asking some questions to check the understanding of the students and to develop a link for the topic of current lecture. Any doubts of the students are clarified through re-explanation or by dissecting the topic in bits interactively upto a level where student gets his doubt cleared. **(Active Learning)**
- ✓ By Quiz questions during lecture session based on pre knowledge or provoking students to think critically. **(Active Learning)**
- ✓ By calling group discussions on the assignment problems (**Develops Team Work, Communication Skills, Think, Share and Pair attitude)**
- ✓ By allotting group project and mini-projects to a group of 3-4 students under the supervision of a faculty. **(Helps "Learning by Doing", develops Team work spirit, life long learning attitude and professional skills)**
- ✓ By asking the students to carry out literature/field survey, submit a written report in standard format and then delivering an oral presentation on the same. Such seminars generally on the contemporary issues in relevant engineering disciples (literature review) or real world problem (field survey). **(Helps to develop life long learning attitude and communication skills)**
- ✓ By asking the students to perform extensions (in extra hours or on holidays) of the main practicals carried out by them during regular time table hours and making arrangements for the availability of the department facility. (**Helps to develop critical thinking and life long learning attitude.)**
- ✓ Students are given information about the specific websites for accessing e_material, availability of learning material Moodle, and are also exposed to

NPTEL, MIT OCW etc material to enable them to learn the topics at their own pace.

Thus, all these participative learning activities contribute to holistic development and improved student learning, besides facilitating life-long learning and knowledge management.

2.3.5 What is the College policy on inviting experts / people of eminence to provide lectures / seminars for students?

The college encourages the departments to organize expert lectures by inviting faculty from IITs, reputed academic institutes (national or international) and industry experts. The seminars, workshops, conferences also are organized centrally by the institute or separately by each department. During the annual 3 –day technical activity (titled VISION), plenary sessions by eminent personalities are organized. On an average, two seminars, two workshops and four expert lectures are organized by each department every year for the benefit of the students.

2.3.6 What are the latest technologies and facilities used by the faculty for effective teaching? Ex: Virtual laboratories, e-learning, open educational resources, mobile education, etc.

The latest technologies and facilities used by the faculty for effective teaching are:

- ✓ Computer aided teaching methods through power point presentations and multi-media projectors
- ✓ Animations to teach abstract concepts
- ✓ Use of Virtual labs
- ✓ Simulations and virtual instruments to bring laboratory in a class room
- ✓ E_learning material (e_books and e_journals)
- ✓ Digital Library
- ✓ Connecting students through net for display and submission of assignments.
- ✓ On-line course feedback for the attainment of course outcomes

The college is a nodal center for training Master Trainers and Evaluators for NBA accreditation. Since most of the faculty already has gone through training program. they understand the relevance of Bloom's taxonomy in learning mechanism of the learner, thereby orienting the teaching in such a way that learner learns effectively.

The college is also a nodal center for IIT Bombay and IIT Khargapur for conducting webinar based training programmes in Engineering and Technology. The learning of faculty through such programmes helps them to implement modern methods to enable students learn in a better manner.

2.3.7 Is there a provision for the services of counselors / mentors/ advisors for each class or group of students for academic, personal and psycho-socio guidance? If yes, give details of the process and the number of students who have benefitted.

Yes,

- ✓ Class coordinator of class acts as mentor for the students of the respective class.
- ✓ The meetings with academically poor performing students and attendance wise defaulter students are held twice in a semester.
- ✓ Students requiring psycho-socio guidance (as per the decisions taken in the Department' weekly meeting from the records of the students) are referred to a Professional Counselor.
- ✓ Rectors have been appointed in the boys and girls hostel to address their day-today needs.

2.3.8 Are there any innovative teaching approaches/methods/ practices adopted/put to use by the faculty during the last four years? If yes, did they improve the learning? What methods were used to evaluate the impact of such practices? What are the efforts made by the institution in giving the faculty due recognition for innovation in teaching?

Some of the faculty implement following innovative practices in addition to conventional lecture method to improve the learning of the students.

Mini-project Based Learning:

In this method of learning students are assigned a task of putting theory into practice to develop some small application. Generally students of second year and third year of engineering are given mini-projects in groups of 3-4 students either as a course requirement or additional task beyond curriculum. This activity helps students to understand the relevance of the theory, and develop hands on and professional skills.

Seminar Based Learning:

Faculty assigns the topics beyond curriculum and of current relevance from their area to the active students of the class for presenting a seminar to the class. For the final year UG project, presenting the synopsis of the seminar topic is a course requirement while every student of PG is required to deliver two seminars (one in each semester) in the first year of his program.

Computer Assisted Learning:

The college has procured the required software packages for all the departments to learn their courses through various simulation software. Some of such application software help to design the civil structures, mechanical parts and machines, electrical/electronic products etc. Students learn the design courses effectively using such tools. The various tools available with the department which students use for their laboratory session or project work are "Catia (Mechanical), CAD/CAM (Civil), MATLAB, LabView, Proteus, EDA tools (Electical/Electronics), xxxxxx (CSE/IT) .
khkyiy

Industrial Visits and Field Studies:

The department organizes visit to relevant industries, generally for the third year of UG students to expose them to industrial practices. The students of Civil department or Environmental studies pay the field visits to various sites to study the prevailing or expected environmental problems there and suggest the solutions.

It has been found that the students actively take part in all the above activities and learn the courses with fun.

Due recognition and appreciation for the innovation in teaching by a teacher is done during Faculty meetings and CDC (College Development Council) meetings.

2.3.9 How does the College create a culture of instilling and nurturing creativity and scientific temper among the learners?

Following steps are taken by the college to create a culture of instilling and nurturing creativity and scientific temper among learners.

- ✓ 5 to 20% courses of curriculum deal with Basic sciences, Mathematics and fundamental courses in core engineering disciplines.
- ✓ College offers an opportunity to the students to listen to eminent personalities from National Research institutes and industries by organizing Expert Lectures.
- ✓ Alumni pursuing higher studies in India and abroad are invited to interact with students and to share their experience to motivate students to take up Research and Development type final year projects .
- ✓ College encourages students to participate in co-curricular activities organized in the parent institute or any other institute by taking part in paper presentation, project competition, Technical Quiz, Poster presentation etc. This develops self learning attitude, analytical skills, communication skills and creativity.
- ✓ Students are encouraged to opt for inter-disciplinary electives which help them to cultivate inter-disciplinary approach in problem solving.

- ✓ PG students are given compulsory (institute core) course on Research Methodology in which they are expected to critically review few recent journal papers and submit a review report on that.
- ✓ Student performance for skills and attitude is monitored for NBA Graduate Attributes through Rubric assessment which help students to understand their weaknesses for specific performance parameters and then to take efforts to overcome those.
- ✓ To appreciate the talent of the student, every year at annual prize distribution ceremony, outstanding students who achieve remarkable success are honored by giving scholarships.

2.3.10 Does the College consider student projects a mandatorypart of the learning programme? If so, for how many programmes is it made mandatory?

- **Number of projects executed within the College**
- **Names of external institutions associated with the college for student project work**
- **Role of the faculty in facilitating such projects**

Yes, student projects are a mandatory part of the learning programme for all programs.

UG Programmes:

Following table shows the number of UG batches those executed their final year projects within the college**.** The policy of sponsoring the students to industry for one full semester (8th semester) for carrying out industry sponsored projects has been implemented by CSE, IT and Electronics department since academic year 2014-15 while the same will be implemented by the remaining three departments from the forthcoming academic year. This number is expected to decrease in the years to come with many students getting sponsorship from industries.

Table 2.7 : In-house UG Projects

Department	Students on Roll	2014-15	2013-14	2012-13	2011-12
Civil	75	10	10	10	10
Mechanical	75	15	16	15	16
Electrical	75	25	21	23	24
Electronics	75	11	12	12	12
CSE	110	19	37	36	37
IT	75	20	25	26	25

However, there have been no External institutions, so far, associated with college where UG students are carrying out projects. Through the initiative of student exchange and credit transfer policy, such scope for the students will be sought in the future.

PG Programmes:

Following table shows the number of PG students who executed their final year projects within the college.

Table 2.8 : In-house PG Projects

Department	2014-15	2013-14`	2012-13	2011-12
Civil-Environmental	18/18	18/18	12/12	12/12
Civil-Structure	18/18	12/12	11/12	11/12
Mechanical-Heat and power	13/18	18/18	12/12	12/12
Mechanical-Production	?/18	15/18	17/18	17/18
Mechanical-Design	19/30	4/11	5/11	4/8
Electrical - Control	17/18	11/12	10/11*	7/7#
Electrical-Power	17/18	11/12	10/11*	8/8#
Electronics	19/30	10/18	18/18	18/18
CSE	22/30	28/30	14/18	18/18
CSE (IT Specialization)	6/18	13/18	Started in 2012-13	

*Two students left the course after one year
number of students admitted in 2010-11 : 7 for Power systems and Control Systems

Names of External institutions associated with college for the dissertations of PG students :

IITs from Mumbai, Delhi, Guwahati and Hyderabad are the academic institutes of national repute and industries like John Deere, ST-Microelectronics, BEL, Pune, Sankalp Electronics, Hubli etc are associated with college for the dissertations of PG students.

Role of faculty in facilitating such projects:

Department generally allocates one or two project and batches for UG and two PG students for dissertation to each eligible faculty member. In case of sponsored projects, the problem is assigned by the sponsor while in case of in-house projects, the problem is defined by the faculty. Faculty encourages students to carry out project on current research areas and real time problems sponsored by industry. Students refer papers from peer reviewed journals like IEEE, ACM, Springer etc. Faculty guides students for implementing the idea presented in the with some extension. In both cases, the allocated faculty acts as a Guide, monitors the progress continuously, helps in solving their difficulties throughout project/dissertation phase Students get support for presenting their work in various competitions, conferences. Virtual instruments and required simulation tools are made available to the students at the department or central level. The guide takes the demonstration of the project work and reviews the written reports from time to time. The in-semester work and end-semester work is evaluated by a group of three faculty members, Guide being one of them. Recently this evaluation is done using the rubrics developed by the respective department.

2.3.11 What efforts are made to facilitate the faculty in learning / handling computer-aided teaching/ learning materials? What are the facilities available in the College for such efforts?

Following facilities are made available by the college to facilitate computer aided teaching/learning.

- ✓ Each department is provided with sufficient number of computers and few laptops for senior professors with intra-net and internet facility.
- ✓ Each department is provided with seminar hall with LCD and multimedia facility to conduct Guest lecturers or seminars.
- ✓ The class rooms of each department are fitted with LCDs.
- ✓ A very good Digital Library with on-line access to IEEE, Springer, Elseware, ASME ASCE is developed in the college.
- ✓ Laboratories are equipped with modern learning software.
- ✓ All academic practices (like uploading of syllabus, lesson plan, question bank, attendance, results, assignments on Moodle besides setting question papers, result analysis etc) are computer based and all faculty have been given in-house training on the same.
- ✓ Apart from the facilities available at the college, some orientation courses are conducted for the newly joined faculties. Also college encourages faculty members to participate in workshops organized by other institutes.

2.3.12 Does the College have a mechanism for evaluation of teachers by the students / alumni? If yes, how is the evaluation used in achieving qualitative improvement in the teaching-learning process?

Yes, college has a mechanism of evaluation of teachers by students. The feedback form contains the points related to:

- ✓ Availability of lesson plan, syllabus, course outcomes etc on Moodle site
- ✓ Conduct of course as per lesson plan
- ✓ Preparedness of teacher for conduct of lectures and practicals
- ✓ Coverage of course contents
- ✓ Clarity about content delivery
- ✓ Availability of teacher in the campus for clarification of doubts
- ✓ Communication and effective class monitoring

These forms are filled on line and are analyzed for above parameters. A soft copy of this analysis is uploaded on the faculty site of Moodle. The Director and Dean Academics discuss the teaching problems with the faculty having poor feedback report and counsel the faculty to improve it next time. College organizes workshops on pedagogy frequently to facilitate the teachers in improving their teaching.

Alumni are generally consulted for suggesting modifications in the curriculum as per their experience in field. In yearly alumni meeting, feedback forms are filled by them, suggesting improvements over syllabus content, teaching methodologies etc. Feedback from employer is taken into consideration for up gradation of syllabus.

2.3.13 Does the institution face any challenges in completing the curriculum within the planned time frame and calendar? If yes elaborate on the challenges encountered and the institutional approaches to overcome these.

No, the institution does not face any challenge in completing the curriculum within the planned time frame and calendar. In case, if classes are missed due to some sudden unavoidable reasons, faculty engages extra classes on working Saturdays or in zero hours to compensate for the loss.

2.3.14 How are library resources used to augment the teaching-learning process?

The details regarding the infrastructure of the Central Library and the facilities provided by Library are presented in Section 2.4. In brief, the library is equipped with around 1 lakh books in print form while about 1800 books in non-print for. Besides, the digital library has more than 350 e_books, 1000 e_journals and internet access to about 23000 IEEE journals and NPTEL video lectures. Content Management System in the form of Vision e_library suit with more than 900 courses is available with library. The library is linked to DELNET, INDEST, INFLIBNET as a participant is Resource sharing network. The SLIM21Web OPAC is the tool deployed by the library to provide access to the collection.

With input from presentation in the beginning of semester "**Know Your Library**" above

listed resources and facilities are used properly and effectively by both UG, PG students and faculty members to augment the teaching-learning process.

2.3.15 How does the institution continuously monitor, evaluate and report on the quality of teaching, teaching methods used, classroom environments and the effect on student performance?

The quality of teaching, the effectiveness of teaching methods is generally judged from the student feedback reports as well as their performance in various examinations. The class coordinator reviews the average attainment of the course outcomes which indicates the quality of teaching. If this average attainment is low, the academic committee analyses the reasons critically. The internal audit team under the leadership of Dean RDQA submits such reports after inspection and asks the departments to submit the compliance or action plan on such cases.

As far as classroom environment is concerned, the maintenance team of the college carries out the regular housekeeping and cleanliness. All the classrooms and laboratories in the college are spacious, with fresh air and sufficient lighting conditions. A large number of big trees outside the buildings help to give green environment for learning throughput the year.

2.4 Teacher Quality

2.4.1 What is the faculty strength of the College? How many positions are filled against the sanctioned strength? How many of them are from outside the state?

The sanctioned faculty strength of the college is 109. However, the filled posts against regular are only 78 with regular higher level posts remaining vacant due to retirement of previous regular faculty and lack of applicants for higher level posts in-spite of repeated advertisements through newspapers and DTE as well as college website. To meet the requirement of Professors and Associate Professors (especially for PG teaching), few retired faculty has been appointed on the contractual basis. The total contractual faculty (against posts of Professor, Associate Professor and Assistant Professor) filled by the institute is 48, making a total of 123 against 109 sanctioned posts. There are total four faculty members from outside the state.

Table 2.9: Regular Faculty Positions

Department	Post	Sanctioned	Filled	Vacant
Institute	Director	1	1	0
Civil Engineering	Professor	2	1	1
	Associate Professor	4	2	2
	Assistant Professor	8	5	3

Department	Post	Sanctioned	Filled	Vacant
Applied Mechanics	Professor	1	1	0
	Associate Professor	2	0	2
	Assistant Professor	4	3	1
Mechanical Engineering	Professor	3	3	0
	Associate Professor	5	4	1
	Assistant Professor	13	10	3
	W/S Supervisor	1	1	0
Electrical Engineering	Professor	2	1	1
	Associate Professor	4	4	0
	Assistant Professor	8	7	1
Electronics Engineering	Professor	2	1	1
	Associate Professor	4	3	1
	Assistant Professor	11	9	2
Computer Science and Engineering	Professor	2	1	1
	Associate Professor	4	1	3
	Assistant Professor	8	5	3
Information Technology	Professor	1	1	0
	Associate Professor	3	1	2
	Assistant Professor	6	6	0
Physics	Assistant Professor	2	2	0
Chemistry	Assistant Professor	2	2	0
Maths	Assistant Professor	3	3	0
Humanities	Assistant Professor	1	0	1
English	Assistant Professor	1	0	1
Institute	T.P.O.	1	0	1
Total		109	78	31

Contract Faculty position: Details of faculty recruitment on contract basis on UG and PG wing for the Academic year 2013-14 is as follows:

Table 2.10: Contractual Faculty Appointed for 2013-14

Branch	Professor UG+PG	Associate Prof. UG+PG	Asst.Prof UG+PG	Pro-Term Lecturer	Total
Civil	0	0	1	2	3
APM	1	0	1	0	2
Mechanical	0	3	3+2	0	8
Electrical	0	0	1	5	6
Electronics	0+1	0	3+2	2	8

CSE	0+1	0	4	3	8
IT	0	0	2+1	4	7
English	0	0	1	0	1
Env. Sci.	0	0	0	1	1
Humanities	0	0	1	0	1
Total					45

2.4.2 How are the members of the faculty selected?

- Recruitment procedures/ Promotional policies for faculty are as per AICTE/Government of Maharashtra/Shivaji University norms in force.
- Promotions for teaching staff are effected through Career Advancement Scheme of AICTE/Government of Maharashtra/Shivaji University, Kolhapur.

The advertisement for filling up the vacant teaching posts is given in one National newspaper and one State newspaper and details regarding eligibility criteria for application as per norms are displayed on the college website. After receiving the applications, the list of candidates selected for interview with details of interview dates are also published on the web site. The interviews are held by a duly constituted Selection Committee. After interviews, the selected candidates are given appointment orders. The composition of selection committee is as given below:

Table 2.11: Composition of Selection Committee

Chairman of the Committee	1 No
Subject Experts	2 Nos
Head of the concerned department	1 No
Vice Chancellor's Nominee	1 No
D. T. E. Nominee	1 No
B. C. Nominee	1 No
Ladies Representative	1 No
Member Secretary (Director of the institute)	1 No

2.4.3 Furnish details of the faculty

The qualification details of the regular faculty members are as follows:

Table 2.12: Faculty Qualification Details

Highest Qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Regular Faculty							
D.Sc./D.Litt	--	--	--	--	--	--	00

Highest Qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Ph.D.	09	01	11	03	01		25
M.Phil.	--	--	--	--	--	--	00
PG	--	--	13	01	33	07	54
Contractual Faculty							
Ph.D.	01	01	--	--	--	--	02
M.Phil.	---	--	--	--	--	--	00
PG	--	--	--	--	17	19	36
Part Time Teachers							
Ph.D.	01	--	--	--	--	--	01
M.Phil.	--	--	--	--	--	--	00
PG	--	---	--	--	--	--	00

- The minimum qualification for the Professors and Associate Professors is Ph.D.
- The highest qualification for the Assistant Professors is M.E./M.Tech.

2.4.4 What percentage of the teachers has completed UGC-CSIR NET, UGC-NET, and SLET exams? In that what percentage of are with PG as highest qualification?

Net SET qualifications are required only for faculty of Basic Sciences, Humanities and Mathematics. Two teachers i.e. one each from Physics and Mathematics department are NET qualified. The faculty members from other departments are having PG (i.e. M.E./M.Tech.) qualification.

2.4.5 Does the College encourage diversity in its faculty recruitment? Provide the following departments-wise details.

Yes, the College encourages diversity by recruiting faculty from all the places of the state and also from other states.

All the faculty members from Physics, Chemistry, Mathematics and English departments are the product of other colleges. In Engineering Departments 70-80% faculty members are the product of this institute. Some of the faculty members have completed their PG/Ph.D. from the Indian Institute of Technology, Indian Institute of Science and the institutes outside the state.

Table 2.13: Diversity in faculty Positions

Department	% of faculty who are product of the same College	% of faculty from other Colleges within the State	% of faculty from other States	% of faculty from abroad
Civil Engineering	80.00	13.13	6.66	------
Applied Mechanics	75.00	25.00	------	------
Mechanical Engineering	68.00	28.00	4.00	------
Electrical Engineering	77.77	11.11	11.11	------
Electronics Engineering	86.36	4.54	9.09	------
Computer Science and Engineering	28.57	64.28	7.14	------
Information Technology	26.66	60.00	13.33	------
Mathematics	------	100.00	------	------
Physics	------	100.00	------	------
Chemistry	------	100.00	------	------
English	------	100.00	------	------

2.4.6 Does the College have the required number of qualified and competent teachers to handle all the courses for all departments? If not, how do you cope with the requirements? How many faculty members were appointed during last four years?

Yes, the College has the required number of qualified and competent teachers to handle all the courses. Twenty (20) regular faculty members have been appointed during last four years. The experienced retired Professors and Associate Professors are appointed on contract and visiting basis in order to meet the additional teaching load for various Post Graduate programmes.

2.4.7 How many visiting Professors are on the roll of the College?

There are few visiting professors on rolls of the college. Besides this, eminent and experienced Professors from the reputed institutes like IITs/NIT are being regularly invited for delivering expert lectures by various departments.

2.4.8 What policies/systems are in place to recharge teachers? (eg: providing research grants, study leave, nomination to national/ international conferences/Seminars, in-

service training, organizing national/international conferences etc.)

The College extends its support in all aspects to improve the quality of the faculty. The faculty is encouraged to participate in training programmes /workshops/ seminars/conferences/FDPs to update knowledge and develop professional skills.

* **Research grants:**

The College Management encourages the faculty to apply in order to get research grants from funding agencies like AICTE, UGC, and DST.

* **Study Leave:**

Based on the requirements of the individual Departments and the recommendations of the Director, the Administrative Council / BOG can grant Study Leave to staff members for higher studies.

***Nomination to National/International conferences/ Seminars:**

The College encourages the faculty to attend National /International conferences /Seminars by providing financial assistance and special leave.

* **In-service training:**

The College organizes various Faculty Development Programmes like Induction Training Programmes for newly appointed teachers and also encourages faculty to attend training programmes conducted at various institutions/industries to enrich their knowledge.

* **Organizing National / International conferences:**

The College encourages all the Departments to organize conferences / seminars /workshops / exhibitions.

Besides above strategies, following policies are used by the institute to recharge the faculty.

- ✓ Arranging FDPs for all faculty members every year which can promote skill up gradation and make them informed of the current teaching-learning methodologies
- ✓ Implementing TPS-Think Pair Share scheme among the faculty members
- ✓ Interaction with industry to get aquatinted with the latest industry standards
- ✓ Awarding one faculty from the college with the best teacher award on the Annual day function

- ✓ Encouraging faculty to publish and present papers
- ✓ Providing necessary infrastructure to upgrade knowledge and/or skills
- ✓ Allowing faculty members to pursue PG/ PhD under Quality improvement Programme (QIP)
- ✓ Incentives for additional work/services in the form of testing and consultancy .

2.4.9 Give the number of faculty who received awards/recognitions for excellence in teaching at the state, national and international level during the last four years.

- Dr. P. J. Kulkarni, Deputy Director of the institute, received Best Teacher award at the state level by Govt. of Maharashtra in year 2012.
- Dr. G.V. Parishwad , Director of the institute
  - **National Gandhian Innovation Awards – 2012 for Design and Development of** 1 TR Vapour Adsorption Air Cooling System for Truck Cabin using Heat from Engine Exhaust
  - First Prize of Uniken Innovation Award – 2011 at College of Engineering, Pune
  - Life-Member of following Professional Bodies:
  - Indian Society of Technical Education (LM 3426) from 1989,
  - Indian Society of Mechanical Engineers (L 367) from 1994,
  - Fellow of Institution of Engineers (F/113182/0) from 1997,
  - Solar Energy Society of India (0893/LM/99) from 1999,
  - All Indian Association of Doctor of Philosophy (Ph.D) (MS/SAT/LM/070) from 2000,
  - RENET: Renewable Energy Network from 2006,
  - Society of Automotive Engineers (SAE) from 2006,

2.4.10 Provide the number of faculty who have undergone staff development programmes during the last four years. (Add any other programme if necessary)

Table 2.14: Faculty Participation in FDP

Academic Staff Development Programmes	Number of faculty
Refresher courses	49
HRD programmes	22
Orientation programmes	15
Staff training conducted by the College	37
Staff training conducted by University/ other Colleges	21
Summer / Winter schools, workshops, etc.	67

2.4.11 What percentage of the faculty have

* **been invited as resource persons in Workshops / Seminars / Conferences organized by external professional agencies**

Table 2.15: Number of Faculty as Resource Persons

Department	% of Faculty
Civil Engineering	50
Applied Mechanics	45
Mechanical Engineering	40
Electrical Engineering	39
Electronics Engineering	70
Computer Science and Engineering	30
Information Technology	20
Mathematics	40

* **participated in external Workshops / Seminars / Conferences recognized by national/ international professional bodies**

Table 2.16: Faculty participation in External Events

Department	% of Faculty
Civil Engineering	60
Applied Mechanics	50
Mechanical Engineering	60
Electrical Engineering	56
Electronics Engineering	50
Computer Science and Engineering	80
Information Technology	40
Mathematics	50
Physics	100
Chemistry	100

* **presented papers in Workshops / Seminars / Conferences conducted or recognized by professional agencies**

Table 2.17: Faculty Publication

Department	% of Faculty
Civil Engineering	60
Applied Mechanics	50
Mechanical Engineering	40
Electrical Engineering	56
Electronics Engineering	72
Computer Science and Engineering	80
Information Technology	75
Mathematics	50
Physics	100

* **teaching experience in other universities / national institutions and others**

Table 2. 18: Teaching Experience in other Institutes

Department	% of Faculty
Civil Engineering	10
Applied Mechanics	10
Mechanical Engineering	30
Electrical Engineering	05
Electronics Engineering	25
Computer Science and Engineering	25
Information Technology	25
Mathematics	50
Physics	----
Chemsitry	50

* ***industrial engagement***

Table 2.19 : Industrial Engagement

Department	% of Faculty
Civil Engineering	90
Applied Mechanics	50
Mechanical Engineering	60
Electrical Engineering	17
Electronics Engineering	20
Computer Science and Engineering	50
Information Technology	50

* ***international experience in teaching***

Few faculty members from Computer Science and Information Technology , Mathematics have experience in teaching at foreign universities (Technical University Vienna- Austria,).

2.4.12 How often does the College organize academic development programmers for its faculty, leading to enrichment of teaching-learning process?

The College organizes regularly academic development programmes for its faculty, leading to enrichment of teaching-learning process.

* **Curricular Development**

- ✓ Curricular Development and academics is monitored by the Board of Studies (BOS), Departmental Advisory Board (DAB) and Academic Council (AC). The frequency of meeting is minimum one per semester for the former two committees while minimum one per year for the Academic Council.
- ✓ The Institute has organized one week 'Curriculum Revamping' by inviting Mrs. Lueny Morell and Dr. John Lumancusa from US (who are ABET experts) during 19-22nd April 2012 and 23-30th June 2012.
- ✓ Dr. Lueny Morell recently visited institute in January 2015, for reviewing results of curriculum revamping and guiding further for giving more emphasis on industry institute interactions and learning factory.
- ✓ Programmes by providing financial assistance. The Institute Management also encourages Faculty Development

* **Teaching-learning methods**

- ✓ Faculty members make use of different methods to ensure effective Teaching – Learning activities. The lecture method constitutes a major part of the teaching exercise. Additional lectures are conducted as the students are from rural area and also for slow learners. However every teacher incorporates time tested teaching practices which make the classes more effective, interesting and student-centric.
- ✓ All faculty members maintain their respective course files that includes the course objectives & outcomes, syllabus including prescribed and reference text books, lesson plan, previous question papers, assignments, lecture notes etc. These are uploaded on Moodle so that students can have access to this.
- ✓ Faculty members extensively use modern teaching aids such as LCDs, Interactive Board, Internet, and Power Point etc., for all courses.
- ✓ Field trips to industries, exhibitions etc., so as to update the skills of faculty as well as the students.
- ✓ The College motivates the Departments to organize Faculty Development Programmes /Workshops/Seminars/Conferences on a regular basis where the

faculty can upgrade their intra-personal as well as inter personal skills.

- ✓ The Institute conducts Induction Training Programmes for the newly recruited faculty once in a year (in the beginning of first semester of an academic year) to orient them to the institute philosophy and Practices.

* **Examination reforms**

There are significant reforms in Examination system.

- ✓ Absolute grading system which was in practice during 2007-08 to 2011-12 has been replaced by Relative Grading system since July 2012 for all courses with class of more than 30 students. However, absolute grading system is continued for a class of less than or equal to 30 students.
- ✓ Instead of the previous practice of two mid-semester examinations (SE-I and SE-II each of 20 Marks followed from 2010-11 till 2012-14, one MSE examination of 30 Marks is being conducted since 2014-15.
- ✓ Two times submission of In-semester evaluations introduced as ISE-I (at mid-semester) and ISE-2 (at the end of the semester), each of 10 marks instead of the previous practice of submitting overall ISE marks (20) at the end of the semester.
- ✓ End Semester Examination is held for 50 Marks.
- ✓ In case of each of ISE, MSE and ESE for all theory courses, the evaluated answer-books are shown to individual student for transparency (and also for giving feedback to the students regarding their performance level) before finalizing the marks of corresponding component.
- ✓ The authentic photocopy of answer-book of ESE is also available for the student on demand with payment of applicable fees.
- ✓ Moderation of the grades is carried out by the grade moderation committee for uniformity of the grades before finalizing grades.

* **Content / knowledge management**

- ✓ Teachers use technology to design projects and communicate with students on site or off site.
- ✓ Faculty members are:

  - Encouraged to participate in workshops/conferences / seminars and prepare and submit project proposals to various funding agencies like AICTE, DST, UGC etc.
  - Motivated to apply acquired knowledge by designing and fabricating working models, developing software's etc.
  - Encouraged to contribute technical papers / articles on recent developments to journals and conferences.
  - Facilities like Laptop and Net connectivity are provided to each faculty

member for managing the knowledge contents.

2.4.13 What are the teaching innovations made during the last five years? How are innovations rewarded?

During the past five years, the faculty members have modified teaching plans by adapting to new teaching tools like interactive white boards, LCDs, ppts, Moodle platform etc. The entire teaching learning methodology has been oriented towards outcome based education (OBE) philosophy with every faculty focusing on their respective course outcomes and program outcomes. Few of the highlighting points are:

- ✓ Lesson Plans are prepared by the teachers at the beginning of the semester and the students are informed about plan.
- ✓ Think Pair Share (TPS) methodology has been recently introduced so as to have interactive teaching learning.
- ✓ Number of faculty members has made their course material in the form of ppts and related e_learning material available on Moodle site which can be accessed by the students of respective class. This helps slow learners to study a topic at their own pace.
- ✓ Few faculty members have recorded their classroom lectures and are made available on internet YouTube.
- ✓ Some of the faculty members have their own websites. The learning material, video lectures are made available to students on website.
- ✓ NPTEL video lectures are being used by faculty members and students through which they get exposure to domain expertise of IIT faculty.
- ✓ Heads of the departments periodically monitor lectures and practical sessions and suggest corrective measures and point out deviations, if any, for improvement.
- ✓ Innovations are rewarded in the form of appreciation during weekly meetings of faculty. A practice of felicitating "Best Teacher" selected based on some norms is being followed for last 12 years. The selection process also seeks the opinion of students.

2.4.14 Does the College have a mechanism to encourage Mobility of faculty between institutions for teaching?

The institute has signed MoUs with three institutes viz. College of Engineering Pune, VJTI, Mumbai and SGGS Institute of Engineering and Technology, Nanded for mobility of faculty. The institute invites the faculty from these institutes for sharing their teaching experiences. The management/Director encourage faculty to share their expertise with other institutions.

* **Faculty exchange programmes with national and International bodies?**

There is no faculty exchange programme with national and international bodies currently

2.5 Evaluation Process and Reforms

2.5.1 How does the College ensure that all the stakeholders are aware of the evaluation processes that are operative?

The changes in the evaluation process those are planned and proposed to be affected from the subsequent semester are discussed and debated first in the department faculty meetings followed by institute level College Development Committee (CDC) meetings held weekly. The tentative decisions taken in CDC meeting regarding any academic and evaluation reforms are presented to the Board of Examinations (BOE) for their approval. Finally these decisions in the form of Rules and Regulations (RRs) are tabled in the meeting of Academic Council for final ratification. Thus all stake holders are consulted and their opinion is sought before any changes are affected. RRs applicable for any current academic year are made available to all stake holders on college website while for students (who are the major stake holders), such prevailing information is given in the form of circulars and notices displayed at prominent places in various departments, library and examination cell.

2.5.2 What are the major evaluation reforms initiated by the College and to what extent have they been implemented in the College? Cite a few examples which have positively impacted the evaluation management system?

Prior to Autonomy, WCE followed examination system prescribed by Shivaji University, Kolhapur. The system relied only on End-Term examination conducted in a conventional written paper form. Evaluation was done centrally and results were declared by the University.

With autonomy in 2007, WCE implemented Semester system with continuous evaluation and grading system. The system was devised and implemented with support from IIT Bombay faculty. The paper-setting and assessment was done jointly by the internal and external faculty. The focus was to ensure quality standards while encouraging continuous learning and evaluation.

The examination pattern and the changes implemented from time to time are given below:

Examination Pattern:

A) 2007-08 to 2011-12:

The examination pattern in this period was based on

- **Theory Courses**
  - One Mid Semester Examination of 50 marks with weightage of 30%
  - In Semester Evaluation of 20 Marks with weightage of 20%
  - End Semester Examination of 100 marks with weightage of 50%
  - The final results were converted to absolute grades.

- **Laboratory Courses**
  - In Semester Evaluation 60% weightage and End Semester Examination 40% weightage.

Based on the inputs from mentors for curriculum revamping, the examination pattern was changed as follows:

B) 2012-13 to 2013-14:

The examination pattern in this period was based on

- **Theory Courses**
  - Semester Examination-I of 20 Marks with weightage of 20%
  - Semester Examination-II of 20 Marks with weightage of 20%
  - In Semester Evaluation of 10 Marks with weightage of 10%
  - End Semester Examination of 50 marks with weightage of 50%
- **Laboratory Courses**
  - In Semester Evaluation 50% weightage and End Semester Examination 50% weightage.

This pattern was used for two years and it was observed that, in a semester with fourteen weeks of duration, it leads to more of evaluation and less of teaching-learning. With the feedback from students, faculty and other , it was then decided to revert to one mid semester examination as earlier.

C) 2014-15 onwards:

The examination pattern in current academic year is based on

- **Theory Courses**
  - Mid Semester Examination of 30 Marks with weightage of 30%
  - In Semester Evaluation of 20 Marks with weightage of 20%
  - End Semester Examination of 50 marks with weightage of 50%.

- **Laboratory Courses**

- In Semester Evaluation 50% weightage and End Semester Examination 50% weightage.

Absolute grading system was in practice during academic years 2007-08 to 2011-12. Relative grading has been introduced from the academic year 2012-13 for all courses with class of more than 30 students (i.e. for all UG courses) while absolute grading system is continued for courses with a class strength less than or equal to 30 students (generally applicable to PG courses.)

2.5.2 What measures have been taken by the institution for continuous evaluation of students and ensuring their progress and improved performance?

The weightage for continuous evaluation in examination pattern and the changes implemented from time to time are mentioned above. As is evident from above, the reforms as far as continuous evaluation of students is concerned have taken place thrice since autonomy.

The first policy implemented during 2007-08 to 2011-12 had 30% MSE while 20% ISE component. However based on the inputs from mentors for curriculum revamping, the continuous evaluation pattern during 2012-13 to 2013-14 was changed to two semester examinations (SE-I and SE-II) conducted centrally with weightage of 20% each and teachers evaluation as ISE with weightage of 10%.

After implementing the later pattern for two years, a feedback was taken from the faculty and students to assess the effectiveness of having two semester examinations. It was observed that with this pattern, for a maximum fourteen weeks of semester duration, there is less of learning and more of evaluation. So it was decided to revert to one mid semester examination similar to earlier policy.

ISE, through all these years, is a teacher's choice to evaluate the students through Declared Test, Surprise Test, Quiz, Seminars, Group Discussions, Assignments and Presentations etc. ensuring continuous evaluation of students and their progress throughout the semester.

2.5.4 What percentage of marks is earmarked for continuous internal assessment? Indicate the mechanisms strategized to ensure rigor of the internal assessment process?

As mentioned, the percentage of continuous evaluation through In Semester Evaluation by using any of the assessment tools (Declared Tests, Surprise Tests, Quizzes, Seminars, Group Discussions, Assignments and Presentations etc.) has been 20%, 10% and 20% during periods A, B and C mentioned in Section 2.5.2. The same through centrally conducted semester examinations in terms of Mid-Semester, (SE-I and SE-II) and Mid-Semester during the similar durations has been 30%, 40% and 30% respectively

All assessment tools are rigorously deployed by all faculty members. The details about schedule, plan and evaluation method is informed to the students at the beginning of the semester by course teacher. The assessed answer books and tutorials while grades obtained for rubric assessment, are shown to the students .

2.5.5 Does the College adhere to the declared examination schedules? If not, what measures have been taken to address the delay?

Yes, the college strictly adheres to the declared examination schedules and academic calendar. There had not been, so far, any deviation from the declared schedule for examinations. However if any deviation or delay is anticipated or arises unexpectedly few gaps /holidays/two to three additional days are included in schedule itself as per academic calendar.

2.5.6 What is the average time taken by the College for declaration of examination results? Indicate the mode / media adopted by the College for the publication of examination results e.g., website, SMS, email, etc.

The average time taken by the College for declaration of results is ten days after the last day of examination. In case of 8th Semester of UG, the results are declared within a week after the last day of examination. The examination results are published on college website www.walchandsangli.ac.in and the copies of ledgers containing the details of results of respective department are handed over to department office. The grade cards of individual student are distributed to the students by the Examination Cell after confirming no dues in any means pending against them. The examination results are also displayed on the notice boards of the departments.

2.5.7 Does the college have an integrated examination platform for the following processes?

Yes. The college has an integrated examination platform i.e. Examination cell. End Semester and Mid-semester Examinations (ESE, MSE) are conducted centrally by Examination Cell.

* **Pre-examination processes – Time table generation, OMR, student list generation, invigilators, squads, attendance sheet, online payment gateway, etc.**

Data related to registration for theory and laboratory courses is made available to staff at exam cell for generating student list for each of course examination. This is done using the developed software. The question paper setting along-with its analysis is carried out by each course teacher for submitting to Exam Cell. This is coordinated by Department Exam Coordinator (DEC). The seating arrangement for various examinations, Examination Schedule and allotment of invigilation duty to faculty

members is done by exam cell. Attendance records and invigilation reports are printed and kept ready along with answer-books. The exam hall tickets for students are distributed to the students.

* **Examination process –Examination material management, logistics.**

The Question paper copies for various theory courses sealed in large envelops are stored in strong room at exam cell. Blank answer-books are also stored in strong room. These are taken to examination halls along-with attendance record sheet and invigilation reports on the day of examination. Written answer-books after the examination are collected by invigilators for submitting to DEC along-with attendance record sheet and invigilation reports. These answer-books and records are stored at exam cell.

* **Post examination process – attendance capture, OMR based exam result, auto processing, generic result processing and certification**.

Assessment of answer-books by faculty is carried out centrally at exam cell. Scrutiny for assessed answer-books is done at exam cell so as to avoid mistakes. Marks are entered question-wise for processing and also to compute attainment of course outcomes using in-house developed software. Grades allotted are reviewed and moderation is carried out by Grade Moderation Committee (GMC). Board of Examinations (BOE) reviews and approves the grades and results before declaration or publishing.

The constitution of BOE is as follows:

a. Director (Chairman)
b. Dean Academics
c. Controller of Examination (COE): Member Secretary
d. University Nominee (COE of Shivaji University (SU)
e. One expert possessing ten years of industrial/field experience
f. DPC Chairpersons (Representing DPC)
g. Coordinators (Examination, Assessment, Results and Tabulation)

Complaint Redressal Committee (CRC) is an independent committee consisting of three members appointed by Chairman, BOE as and when required to deal with the complaints related to the conduct of examinations. The recommendations of CRC shall be approved by Chairman, BOE to take appropriate disciplinary actions in the concerned matter. The disciplinary actions shall be endorsed by the BOE.

2.5.8 Has the College introduced any reforms in its Ph.D. evaluation process?

Ph. D. evaluation process is carried out as per Shivaji University, Kolhapur and AICTE

– New Delhi rules / norms and regulations. Pre-submission seminar/presentation by the student on his research work has been introduced by the college in the evaluation process.

2.5.9 What efforts are made by the College to streamline the operations at the Office of the Controller of Examinations?
Mention any significant efforts which have improved process and functioning of the examination division/section?

Examination cell has been housed in a separate building. The civil infrastructure of the Examination Cell consists of Strong room, Office cabin for controller of examination, Assessment hall for assessing answer-books and working space for supporting staff. Conventional and Wi-Fi net connectivity, adequate number of computer systems and printers as well as a photocopying machine have been provided to Exam Cell for proper and efficient functioning of the exam cell.

Necessary and sufficient manpower has been employed for processing pre-examination, during examination and post-examination work and tasks. Details are as given below:

Table 2.20 : Manpower for Exam. Cell

Officers / Staff at Central Assessment Cell (CAC)	Eligibility	Number
Coordinator	DEC/Assistant Professor/ Competent faculty appointed by COE	1
Officer-In charge	Competent faculty/ Staff appointed by COE	2
Office clerk	Competent staff appointed by COE	2
Computer operators	Appropriate persons appointed by COE	2
Scrutiny assistants	Appropriate persons appointed by COE	4
Peon/Sweeper	Class-IV	2

As mentioned above, the Exam cell has developed special software for entry and validation of marks, computing course grades and then Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA), and printing of mark sheets. This software is designed to eliminate possible mistakes which can generally occur during assessment, or entry of marks against each question.

Exam Cell also developed the software for

- ✓ Grade Moderation

- ✓ Statistical Analysis
- ✓ Result Processing
- ✓ Ledger and Grade card printing

Exam Cell took special efforts to eliminate the common mistakes in question paper setting. This was done by developing a question paper formatting software.

The software is designed to carry out analysis of question paper for type of question (descriptive, analytical, numerical, design, analysis etc) and course outcomes (Percentage of questions focusing to attain course outcomes), while for performance of class (in terms of attainment of various course outcomes) after paper assessment in tabular as well as graphical format.

The support staff of Exam Cell renders help for rigorously testing this software. The faculty members, HoDs, Director, Deputy Director, all Deans have also contributed by sharing their views from time to time to improve these in-house developed software.
Exam Cell also facilitates faculty members by providing preformatted invigilation reports during all exams which are conducted centrally, for reducing the manual errors. Automation in various exam cell activities was implemented for simplified operations.

The implementation of these software has improved process and functioning of the examination cell considerably.

2.5.10 What is the mechanism for redressal of grievances with reference to evaluation?

In case of each of ISE, MSE and ESE for all theory courses, the evaluated answer-books are shown to individual student. The corrections/queries raised by students are addressed by the theory Course-teacher. The genuine and legitimate changes or corrections are effected by Course-teacher before entering marks in the mark-list. The authentic photocopy of answer-book of ESE is also available for the student on demand with payment of applicable fees.

Complaint Redressal Committee (CRC) has been constituted and is functioning for addressing the complaints and redressal of complaints put forth by the students.

2.6 Student Performance and Learning Outcomes

2.6.1 Whether the College have clearly stated learning outcomes for its programmes? If yes, give details on how the students and staff are made aware of these?

Yes, the Institute has clearly stated the learning objectives in terms of Program Educational Objectives- **PEOs** and learning outcomes (in term of Program Outcomes- **POs** for each program

PEOs define the capabilities, the graduates of the institute are expected to achieve over a period of four years of their graduation while the POs define the capabilities the students of a program are expected to achieve at the time of graduation. These are in line with the Graduate Attributes (12 Nos) presented through Washigton Accord and are accepted by National Board of Accreditation, India.

Since PEOs describe the career and qualification accomplishment of the graduates, the statements are common to all the programs. These statements give emphasis on knowledge, skill and attitude. The PEOs defined by the institute for all programs are as follows;

The graduate of a UG program in Engineering of Walchand College of Engineering, Sangli after three to four years of graduation will:

PEO1: Demonstrate technical competency by applying knowledge to solve problems related to engineering issues.

PEO2: Exhibit skills and appropriate attitude to succeed in their professional career.

PEO3: Display thirst for emerging technologies and quest for innovation with concern to society and environment.

Program outcomes, though in line with Graduate attributes, vary slightly from program to program. The POs of UG program of Civil Engineering are presented below as an example.

The student of UG program of Civil Engineering of Walchand College of Engineering at the time of graduation will be able to:

a. Demonstrate knowledge of mathematics and sciences as building blocks of the Civil Engineering discipline.
b. Conduct, analyze and interpret experiments, and apply experimental results.
c. Apply civil engineering knowledge for design, construction, operation and maintenance of constructed facilities.
d. Identify, investigate, formulate and solve problems in civil engineering
e. Understand the impact of civil engineering solutions in a global, economic, environmental and societal context.
f. Function effectively as a member of multidisciplinary team.

g. Understand professional and ethical responsibility.
h. Use modern civil engineering techniques, skills, and tools necessary for engineering practice.
i. Understand contemporary issues.
j. Communicate and interact effectively.
k. Recognize the need for, and engage in life-long learning.

PEOs, POs and COs are made available to respective stakeholders by following means.

- ✓ The outcomes are reviewed in the meetings of Board of Studies and Departmental Advisory Board at the beginning of every academic year .
- ✓ The faculty explains the outcomes expected from the students in the orientation classes / beginning lecture at every semester.
- ✓ The outcomes expected from the students for the programme are displayed at prominent places in the department.
- ✓ Both PEOs and POs are displayed on college website http;// www.walchandsangli.ac.in
- ✓ POs are met through the attainment of course outcomes of all courses concerned with that program. Faculty explains these course outcomes to the students in the beginning of the course. The syllabus file uploaded on Moodle, which is accessible to students, contains these Course Outcomes for each of the courses of the program.

2.6.2 How does the institution monitor and ensure the achievement of learning outcomes?

The learning outcomes (program outcomes) spell about the capabilities of graduating student in terms of knowledge, skill and attitude. The statements for POs given in Section 2.6.1 indicate that the first five POs (a to e) represent the capabilities in terms of cognitive levels of Bloom's taxonomy which deal with knowledge part while POs (f to j) represent the capabilities in terms of skills which deal with psychomotor domain of Bloom's taxonomy. The POs related with ethical behavior, concern to environment and lifelong learning (viz. e, g and k) deal with attitude part of the student and hence depict the affective domain of Bloom's taxonomy.

The knowledge related POs are attained by the students through the courses of four years of graduation study and are assessed through direct assessment tools viz. examinations, assignments, tutorials quiz, etc. as well as indirect assessment tools like Course Exit Survey and Graduate Exit Survey.

The skill related POs like team spirit, communication skills (both oral and written, use of modern tools etc) are attained by the students through direct assessment tools like laboratory sessions, laboratory examinations, mini-projects, projects, seminars,

presentations & co-curricular and extra-curricular activities. Since attainment of skills cannot be quantified directly, rubrics are developed with appropriate performance criteria by the institute to assess the students when they work in laboratories, give presentations on their projects, submit written reports on any academic activity and participate in co-curricular and extra-curricular activities. These are also assessed through Graduate Exit Survey.

The attitude related POs are assessed through participation of the student in societal work carried out by the student (e), observation on his overall behavior and response(g) and independently executed tasks (k). These are also assessed through Graduate Exit Survey.

All direct and indirect assessment tools are rigorously used by all faculty members of all programs throughout the semester. The attainment of course outcomes is computed by all faculty members for their respective courses through direct assessment tools with weightage of 80% and Course Exit Survey with weightage of 20%. The Program Coordinator of each program collects this information from Class Coordinators and implements following policy to compute attainment of Program Outcomes as mapped to Graduate Attribute.

Table 2.21: Policy for Computation for PO Attainment

GA	GA Description	PO mapped (Eln)	Direct Tools		Indirect Tool		
			SEM Exam	Rubric	CES	GES	SPF
1	Engineering Knowledge	a	80%	-	10%	10%	-
2	Problem Analysis	b	80%	-	10%	10%	-
3	Design/Development of Solutions	c	80%	-	10%	10%	-
4	Conduct investigations of complex problems	d	70%	-	10%	20%	-
5	Modern Tool Usage	e , k	-	50%	25%	25%	-
6	The Engineer and Society	f	-	-	50%	50%	-
7	Environment and Sustainability	f	50%	-	25%	25%	-
8	Ethics	f	30%	50%	10%	10%	-
9	Individual and Team Work:	d	-	50%	10%	10%	30%
10	Communication	g	20%	60%	10%	10%	-
11	Project management	l	80%	-	10%	10%	-

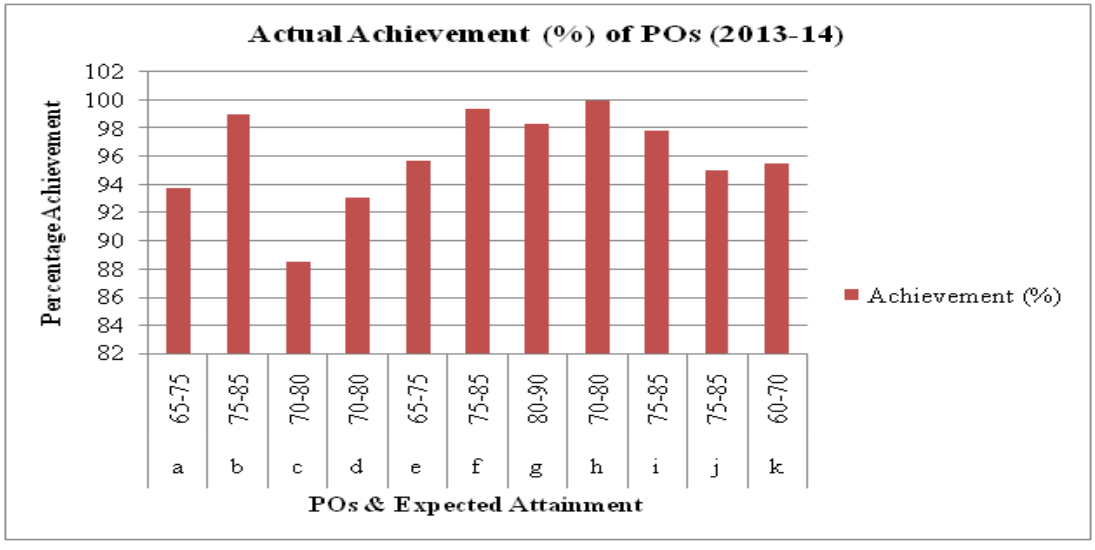
	and Finance						
12	Life Long Learning	h, i	-	50%	10%	10%	30%

The bitwise details regarding efforts taken by faculty and institute to ensure the attainment of POs are as follows:

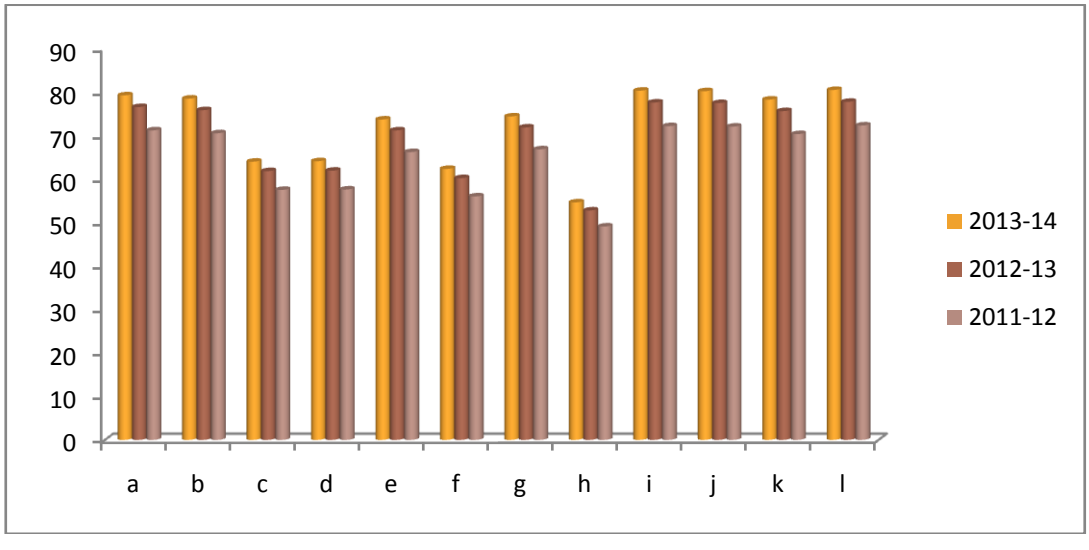
- ✓ During the preparation of lecture plan, the discussion in the classroom, question paper setting, conduct of Mid-semester & End-Semester examinations and the evaluation process proper care is taken leading to achieve the defined outcomes.
- ✓ Regular assignments, quiz, seminar, declared tests and surprise tests are conducted to monitor the progress of the student.
- ✓ Tutor-ward system is followed; the assigned faculty member monitors the performance of the students and maintains the record of the students on the Moodle
- ✓ The College organizes co-curricular and extra-curricular activities to enrich the outcomes.
- ✓ The student learning outcomes in curricular activities is monitored by the teacher through student performance in the classroom during the lecture hours.
- ✓ The evaluated reports are discussed in the faculty meetings and appropriate measures are taken for improvement.
- ✓ Both internal and external academic audits are carried out during each semester so as to assess the attainment of the learning outcomes.

The attainment of POs for academic year 2013-14 by UG program in Civil Engineering (as an example) against expected attainment level for each PO and that for UG program of Electrical Engineering for three consecutive academic years is graphically depicted below.

PO attainment (2013-14) UG – Civil Engineering



PO attainment (2013-14) UG – Electrical Engineering



2.6.3 How does the institution collect and analyze data on student learning outcomes and use it for overcoming barriers of learning?

Details of the data collection required for computation of attainment POs are already presented in the Section 2.6.2 in detail. Few of the additional details are as follows:

- ✓ A faculty member (Tutorial Batch Teacher) collects the academic data of the students in the in-semester as well as at the end semester examination
- ✓ The attainment of program outcomes is monitored twice in a year. The academic audit is conducted once per semester by internal auditors while once per year by external auditors.
- ✓ The academic audit reports are discussed in the department meeting. Proper action is planned with suggestions from BoS/DAB to overcome the shortcomings mentioned in the report for the subsequent semester.
- ✓ If there is a discrepancy in the targeted and attained level of outcome as observed by individual faculty or mentioned in academic audit report, a critical analysis is carried out by each concerned faculty to find out the causes.
- ✓ Such findings are discussed in the department meeting and common causes for low attainment of outcomes are discussed.
- ✓ An appropriate action plan (e,g, conduct of remedial classes, addressing weak students, repeating the difficult topics, inviting guest lectures etc.) with suggestions from BoS/DAB to overcome the shortcomings mentioned in the report for the subsequent semester is scheduled and executed.
- ✓ A close monitoring is done for the implementation of the suggestions to finally crosscheck the improvement in the attainment.

2.6.4 Give Programme-wise details of the pass percentage and completion rate of students.

Table 2.22: Pass Percentage and Completion Rate (UG)

Give Programme-wise details of the pass percentage and completion rate of students.									
Final Year B. Tech. All Branches Details									
Class	**Academic Year**	**Distn.**	**First class**	**Second class**	**ATKT**	**Fail**	**Total**	**% of passing**	**Completion Rate (%)**
Civil Engineering	2010-11	16	46	23	0	1	86	98.84	97.22
	2011-12	19	45	16	0	2	82	97.56	98.68
	2012-13	31	31	8	0	3	73	95.89	90.14
	2013-14	44	22	17	0	2	85	97.65	88.31

Give Programme-wise details of the pass percentage and completion rate of students.									
Mechanical Engineering	2010-11	34	35	5	0	5	79	93.67	97.14
	2011-12	33	40	7	0	3	83	96.39	98.70
	2012-13	48	15	13	0	2	78	97.44	96.05
	2013-14	41	24	10	0	4	79	94.94	91.67
Electrical Engineeering	2010-11	33	34	10	0	5	82	93.9	98.61
	2011-12	48	25	9	0	5	87	94.25	97.47
	2012-13	49	26	4	0	3	82	96.34	97.44
	2013-14	35	26	13	0	5	79	93.67	92.41
Electronics Engineering	2010-11	24	41	6	0	1	72	98.61	96.00
	2011-12	41	33	10	0	0	84	100	82.05
	2012-13	49	13	13	0	1	76	98.68	78.05
	2013-14	44	26	10	0	3	83	96.39	92.21
Computer Science and Engineering	2010-11	26	69	15	0	1	111	99.1	88.24
	2011-12	29	68	14	0	2	113	98.23	90.83
	2012-13	69	30	14	0	5	118	95.76	91.67
	2013-14	60	30	29	0	3	122	97.54	97.54
Information Technology	2010-11	25	42	6	0	2	75	97.33	95.83
	2011-12	26	42	10	0	0	78	100	98.67
	2012-13	45	26	4	0	0	75	100	95.95
	2013-14	32	27	17	0	0	76	100	97.33
Total (all UG Programs)	**2010-11**	**158**	**267**	**65**	**0**	**15**	**505**	**97.03**	**94.79**
	2011-12	**196**	**253**	**66**	**0**	**12**	**527**	**97.72**	**94.06**
	2012-13	**291**	**141**	**56**	**0**	**14**	**502**	**97.21**	**91.42**
	2013-14	**256**	**155**	**96**	**0**	**17**	**524**	**96.76**	**93.58**

It is seen from above table that the passing percentage exceeds 95% while completion rate exceeds 90% for last four academic years,

Table 2.22: Pass Percentage and Completion Rate (PG)

First and Second Year M. Tech. All Branches Details										
Class	**Academic Year**	**Year**	**Distinction**	**First class**	**Second class**	**ATKT**	**Fail**	**Total**	**% of passing**	**Completion Rate%**
M. Tech. Civil (Environmental)	2010-11	I	1	2	2	0	2	7	71.43	
		II	2	3	0	0	0	5	100	71.43
	2011-12	I	1	4	4	0	2	11	81.82	
		II	3	2	0	0	0	5	100	45.45
	2012-13	I	2	2	8	0	0	12	100	
		II	7	2	0	0	0	9	100	75.00
	2013-14	I	0	5	7	4	0	16	100	
		II	8	3	0	0	0	11	100	68.75
M. Tech. Civil (Structural)	2010-11	I	6	3	0	0	3	12	75	
		II	2	2	0	0	0	4	100	33.33
	2011-12	I	5	7	0	0	0	12	100	
		II	7	5	0	0	0	12	100	100.00
	2012-13	I	7	5	0	0	0	12	100	
		II	12	1	0	0	0	13	100	100.00
	2013-14	I	10	7	1	0	0	18	100	
		II	11	0	0	0	0	11	100	61.11
M. Tech. Mechanical (Design)	2010-11	I	6	2	0	0	0	8	100	
		II	2	1	0	0	0	3	100	37.50
	2011-12	I	4	7	1	0	0	12	100	
		II	7	0	0	0	0	7	100	58.33
	2012-13	I	7	3	2	0	1	13	92.31	
		II	11	1	0	0	0	12	100	92.31
	2013-14	I	12	9	8	1	0	30	100	
		II	8	2	0	0	0	10	100	33.33
M. Tech. Mechanical (Heat and Power)	2010-11	I	2	6	1	0	0	9	100	
		II	5	0	0	0	0	5	100	55.56
	2011-12	I	3	8	0	0	0	11	100	
		II	7	2	0	0	0	9	100	81.82
	2012-13	I	8	4	0	0	0	12	100	
		II	11	0	0	0	0	11	100	91.67
	2013-14	I	9	7	2	0	0	18	100	
		II	11	0	0	0	0	11	100	61.11
M. Tech.	2010-11	I	3	11	0	0	0	14	100	

First and Second Year M. Tech. All Branches Details										
Mechanical (Production)		II	5	0	0	0	0	5	100	35.71
	2011-12	I	0	15	0	0	2	17	88.24	
		II	11	3	0	0	0	14	100	82.35
	2012-13	I	6	11	2	0	0	19	100	
		II	16	1	0	0	0	17	100	89.47
	2013-14	I	6	10	2	0	0	18	100	
		II	16	2	0	0	0	18	100	100.00
M. Tech. Electrical (Control Systems)	2010-11	I	2	4	0	0	1	7	85.71	
		II	3	1	0	0	0	4	100	57.14
	2011-12	I	3	8	0	0	0	11	100	
		II	6	2	0	0	0	8	100	72.73
	2012-13	I	5	5	2	0	0	12	100	
		II	10	1	0	0	0	11	100	91.67
	2013-14	I	8	5	2	3	0	18	100	
		II	11	0	0	0	0	11	100	61.11
M. Tech. Electrical (Power Systems)	2010-11	I	5	3	0	0	0	8	100	
		II	5	1	0	0	0	6	100	75.00
	2011-12	I	5	7	0	0	0	12	100	
		II	6	0	0	0	0	6	100	50.00
	2012-13	I	8	2	2	0	0	12	100	
		II	10	0	0	0	0	10	100	83.33
	2013-14	I	14	3	1	0	0	18	100	
		II	11	1	0	0	0	12	100	66.67
M. Tech. (Electronics Engineering)	2010-11	I	2	6	3	0	0	11	100	
		II	8	2	2	0	0	12	100	100.00
	2011-12	I	6	9	2	0	0	17	100	
		II	9	1	0	0	0	10	100	91
	2012-13	I	8	6	5	0	0	19	100	
		II	16	0	1	0	0	17	100	100
	2013-14	I	12	7	9	1	1	30	96.67	
		II	15	2	0	0	0	17	100	56.67

First and Second Year M. Tech. All Branches Details										
M. Tech. Computer Science & Engineering	2010-11	I	5	7	2	0	1	15	93.33	
		II	12	0	2	0	0	14	100	93.33
	2011-12	I	4	10	4	0	0	18	100	
		II	10	4	0	0	0	14	100	77.78
	2012-13	I	4	11	5	0	0	20	100	
		II	14	4	0	0	0	18	100	90.00
	2013-14	I	14	11	4	0	1	30	96.67	
		II	14	3	0	0	0	17	100	89.00
M. Tech. Computer Science & Engineering (IT)	2012-13	I	5	8	4	0	1	18	94.44	
		II	--	--	--	--	--	--	--	--
	2013-14	I	7	7	4	0	0	18	100	
		II	14	3	0	0	0	17	100	100
Total (all PG Programs)	**2010-11**	**I**	**32**	**44**	**8**	**0**	**7**	**91**	**92.31**	
		II	**44**	**10**	**4**	**0**	**0**	**58**	**100.00**	**63.74**
	2011-12	**I**	**31**	**75**	**11**	**0**	**4**	**121**	**96.69**	
		II	**66**	**19**	**0**	**0**	**0**	**85**	**100.00**	**70.25**
	2012-13	**I**	**55**	**49**	**26**	**0**	**1**	**131**	**99.24**	
		II	**107**	**10**	**1**	**0**	**0**	**118**	**100.00**	**90.08**
	2013-14	**I**	**85**	**64**	**36**	**9**	**2**	**196**	**98.98**	
		II	**105**	**13**	**0**	**0**	**0**	**118**	**100.00**	**60.20**

It is seen from above table that the passing percentage for PG programs exceeds 95% while completion rate exceeds 90% for last four academic years,

CRITERION III: RESEARCH, CONSULTANCY AND EXTENSION

3.1 Promotion of Research

3.1.1 Does the College have a research committee to monitor and address the issues of research? If yes, what is its composition? Mention a few recommendations which have been implemented and their impact.

Yes, the college has research committees to monitor the research activities at various levels.

i. The progress seminars of Ph.D work is monitored by departmental research committee consisting of Head of Department (Chairman), Four experts (Two Professors and Two Associate Professors) from the respective department.The committee meets twice in a year to monitor the progress of the Ph.D work. Ph.D thesis prior to its submission is assessed by a committee consisting of Director, Two internal experts, One external expert, Dean Academics, Dean RDQA and Chairman of departmental programme committee.On the recommendations of the committee the thesis is forwarded to Shivaji university Kolhapur for further processing. The typical recommendations include additional works to be carried out to improve the quality of research, incorporation of elaborative discussions, appropriate conclusions based on the study conducted etc. The regular presentations before the research committee has improved the quality of Ph.D work which is evident in increased number of publications.

ii. The funded research projects from funding agencies such as AICTE, DST, DRDO,CSIR etc are monitored by a committee consisting of Director, Dean academics/Dean RDQA,Head of respective department, one internal expert and one external expert.The committee meets once in a year. The progress and utilization reports are sent only after the presentation of the work by the principal coordinator of the project to the satisfaction of the committee. The typical recommendations of the committee include modifications to experimental set-up, use of appropriate methodology, presentation of results, applications to societal needs, publishing the study in peer reviewed journal etc. This has helped in timely submission of progress and utilization reports and thereby completion of the project in time with publication in peer reviewed journal.

3.1.2 What is the policy of the College to promote research culture in the College?

The policy of the college is to promote research and is evident in the vision statement of the college. The research culture is promoted in many ways by the college at various levels. The undergraduate and post-graduate (in particular) students are encouraged to take up research oriented projects for UG project and PG dissertation. All the facilities necessary for the conducting the research work are provided in terms of infrastructure, manpower and extended working hours.The students are financially supported to attend/participate in conferences and present their research work.

The faculty are deputed to pursue their Ph.D programme through Quality Improvement Programme (QIP) with full pay. The faculty are also encouraged to register for Ph.D through external registrations in IITs and other universities. They are given study leave for completing their course work in IITs in case of external registrations. The facilities required for carrying out the research work are made available through various college funds. The faculty are further supported to apply for research grants to national and international agencies. A provision for seed money funding is made in Technical Education Quality Programme (TEQIP). Under this scheme of funding the faculty areprovided with seed money to develop the experimental set-upand procure necessity components required for their work.

The college has provision to provide travel grants to attend a national conference once in a year and international conference once in three years for the faculty. In addition to this, the faculty are financially supported to organize/attendconferences/seminars/ workshops/training programmes under TEQIP.

The faculty are encouraged to publish their work in peer-reviewed journals. The financial support (if required) is provided to the faculty and students.
The college has been recognized as a minor centre for Ph.D programme under QIP by AICTE.

3.1.3 List details of prioritized research areas and the areas of expertise available with

the College.

Table 3.1: List of research areas and expertise available in respective departments.

Sr. No.	Research areas	Areas of Expertise Available
1	Civil Engg.	Water and Wastewater Treatment, Modeling of Environmental Systems, Solid Waste Management, Air Pollution, Constructed Wetlands Building Materials and Technologies, Energy Efficiency in Building, Structural Engineering, Earthquake,,
2	Mechanical Engineering	Machine dynamics and vibration modelling, Balancing Micromachining, Machining of MMCs Applied soft computing, Optimisation, Decision modeling Mechatronics, Control systems, Signal processing Metal casting, solidification analysis, microstructure modelling and analysis Cryogenics, Heat and fluid flow modelling, CFD
3	Electrical Engineering	HV Processing, Control Systems/Power Systems, Power Electronics, Electrical Drives, Electrical Machines, Power Electronics.
4	Electronics Engineering	Signal Processing, Communication Engineering, VLSI Design, Image Processing, Electronic System Design, Control Systems, Communication Engineering, Electronic System Design, Image Processing Mobile Communication, Sensor Networks, Image Processing.
5	Computer Science and Engg.,	Artificial Intelligence, Pattern Recognition, Databases, Data Mining, Networking, Image Processing,

Sr. No.	Research areas	Areas of Expertise Available
		Information Security, High Performance Computing, Cloud Computing.
6	Information technology	Machine Learning Image Processing and Computer Vision Data Mining High Performance Computing Software Engineering Pervasive Computing Computer Networks Information Security Geographical Information Systems
7	Mathematics	Complex Analysis

3.1.4 What are the proactive mechanisms adopted by the College to facilitate smooth implementation of research schemes/ projects?

The college has its own system of implementing the research scheme/project. The principal investigator has full freedom to utilize the funds for the purpose for which it is sanctioned. The procurement of any equipment/instrument is through a methodical/systematic purchase procedure viz. quotations/tendering, comparative statements, recommendations of departmental purchase committee and approval by college level purchase committee. There is no delay in the procurement as frequency of purchase committee meetings are normally once in a week or as and when required.

In case of shortage of funds to complete the project/scheme the college provides additional required funds with due approval from the original funding agency for partial financial support.

All the projects either funded through college or external agencies are duly monitored by department level research committee for completion in time or audited by college appointed and government (Regional office, Pune Department of Technical Education (DTE)) auditors.The utilization certificate is normally submitted in the month of April at the end of financial year to the respective funding agencies.

The college also has a mechanism for availing custom duty exemption. The

proposals are scrutinized by a committee consisting of Director, Dean RDQA, Head of department and an expert in the field of study and forwarded with recommendations to the University for further approval.

3.1.5 How is interdisciplinary research promoted?

* **Between/among different departments of the College**

The curriculum has institute and departmental electives through which students are encouraged to choose projects of interdisciplinary nature. Further the college has minor programme which is basically interdisciplinary in nature. The students have access to faculty and all the facilities in other departments apart from their parent department. Some of the UG projects, PG dissertations are interdisciplinary.

* **Collaboration with national/international institutes / industries.**

The college has implemented internship scheme for UG students in the disciplines electronics, computer science and Engineering and Information technology. Internship is offered by the industry/organization and the students carry out projects in industry/organization. Industry sponsored PG dissertations are encouraged to an extent of 40% of the student strength in that programme.

There are activities in collaboration with other institutes/organizations (Maharashtra Pollution Control Board, Mumbai, IIT, Bombay, VJTI, Mumbai, VNIT, Nagpur, BARC, Tata, Environmental Protection and Research Foundation (EPRF), Sangli). The nature of activities includes monitoring programmes, sharing of resources, and research fellowships. The college has Memorandum of understanding (MoU) with institutes of national repute to promote research culture.

Table 3.2: Collaborative institute/industry and nature of activity

Department	Name of collaborating institutes / industries	Nature of collaborative activity
Civil Engg	1. Maharashtra Pollution Control Board, Mumbai 2. IIT, Bombay 3. Mumbai 4. VNIT, Nagpur 5. Environmental Protection and Research Foundation (EPRF), Sangli	Air quality and noise monitoring in Sangli Research fellowship to PG students Partner institutes in MPCB activity Sharing of resources
Mechanical Engineering	TATA consultancy services limited	Workshop for students for developing technical competency
		Faculty development program
		Student internship/sponsored projects
	INFOSYS technologies ltd. (campus connect)	Enhance quality of education
		Faculty training.
		Student B. Tech projects
	IBM	Faculty development program
		Sharing of software's.
	3D PLM(Geometric Software)	Student B. Tech projects etc
		Sharing of DS software license
		Student training.
	OMEGA Consultants, Kolhapur	Exchange of technical know how
		Sharing of instruments and facilities
		Jointly conduct consultancy work
	Sonhira SSK, Wangi District: Sangli	Exchange of technical know how
		Organize academic meets and workshops
	Perfect Consultants, Mumbai	Exchange of technical know how
		Sharing of instruments and facilities
		Jointly conduct consultancy work
	Mahindra Engineering Services	Student training
		Joint research projects
		Faculty development workshops
Electronics	1. IIT Bombay 2. IIT Delhi	To enhance knowledge in fundamentals of Electronics and

Department	Name of collaborating institutes / industries	Nature of collaborative activity
	3. Geometrics, Pune	Conversation on Recent trends To expose the students to Emerging Areas or Tools in the Industry
	1. John Deree, Pune 2. Hella Electronics, Pune 3. Altium Technologies 4. UNCC, USA Silicon Machines, Pune	Research fellowship to PG students Installation demo of Altium software and hardware To expose the students in Embedded system design
	1. Entuple Technologies 2. Cadens Design Systems, Pune 3. SGGS, Nanded 4. Intersil, Bangalore 5. Marvel Semiconductor 6. CEERI, Pilani 7. Applied Micro, Pune	Cadence Software installation training VLSI System Design Seminar To get the knowledge in CMOS VLSI Design Industry related Opportunities in VLSI Research fellowship to PG students Processor Design and FPGA Implementation of Recursive algorithms Knowledge about the industrial requirements
	1. National Instruments 2. L & T, Mumbai 3. Precision Automation and Robotics India (PARI)	A one Week Workshop on LabVIEW Guidance on Importance of Control System Research fellowship to PG students
	1. IIT Hyderabad	To expose the students in sensor network projects
	1.MHRD 2.IIT Kharagpur Silicon Machines, Pune	To expose the students in Signals and Systems To acquire a better understanding in DSP and Embedded C
CSE	Siddhivinayak Cancer Hospital, Miraj	Expertise in medical field extended by Hospital for the

Department	Name of collaborating institutes / industries	Nature of collaborative activity
		research project in the area of medical imaging
	CDAC Pune	M.Tech internship of three candidates in the area of HPC
	IIT, Bombay	M.Tech internship to candidates in the interdisciplinary project in the area of Electrical Engineering and HPC
	Indo-UC Collaboration for Engineering Education (IUCEE)	Organizing Webinars, Conferences, Faculty Interaction
IT	NVidia, Pune	Research/Training Centre
	NI, Banglore	Robotics
Mathematics	Israel Ins of Tech-Haifa,Israel Brigham Young Univ, Provo, UT,USA Univ Cenrtal Florida, Orlando, USA	Exchange of visits Publication of joint papers. Exchange of visit, jointly book published by Springer Verlag Exchange of visit, workshop organized and published papers

3.1.6 Enumerate the efforts of the College in attracting researchers of eminence to visit the campus and interact with teachers and students?

i. The college has taken lot of initiatives in terms of organizing seminars, workshops, conferences, and training programmes, in various departments. The academicians and professionals are invited for participating in these activities.

ii. Expert lectures are organized by most of the course coordinators during the semester. The topics include contents which are beyond syllabus

Table 3.3:
List of eminent professors who visited the college

Department	Name of eminent researcher visited	Name of organization
Civil Engg	1. Dr. R. K. Rai	Govt. College of Engg.Amaravati
	2. Dr. L. G. Patil	SGGS COE&T., Nanded
	3. Prof. A. G. Bhole	Rtd. Prof., VNIT Nagpur
	4. Prof. A. D. Patwardhan	Rtd. Prof., VJTI Mumbai
	5. Prof. B. Subbarao	EPRF, Sangli
	6. Dr. S. Y. Mhaske	VJTI, Mumbai
	7. Prof. P. P. Bhave	VJTI, Mumbai
	8. G. S. Fulari	MPCB
	9. Dr. S. T. Mali	Sinhgad College of Engg., Pune
	10. Prof. J. M. Gadgil	Enviro-consultants, Sangli
	11. Prof. C. B. Shivayogimath	BVVs College of Engg., Bagalkot
	12. Prof. V. A. Mhaisalkar	VNIT, Nagpur
	13. Dr. D. L. Waikar	Edu Energy consultants, Singapore
	14. Prof. C. Putcha	California State University, Fullerton
	15. Prof. S. V. Ranade	Dnyandeep Inftech., Sangli
	16. Dr. P. C. Deka	NIT Surthkal
	17. Prof. Kumthekar	Govt. College of Engg., Karad
	18. Prof. S. Srihari	NIT, Surthkal
	19. Mr. Nitant J. Shaha	GM, J. K. Cement ltd. Pune
	20. Prof. Tarun Kant	I. I. T. Mumbai
	21. Prof. O. R. Jaiswal	V. N. I. T. Nagpur
	22. Dr. Arun Bapat	CWPRS, Pune.
	23. Dr. Vinod Hosur	G. I. T. Belgum
	24. Mr. N. D. Deshmukh	Senior Scientist, BIS, Pune
Mechanical Engineering	Dr.B.D.Kelkar	TCS, Pune
	Mr. Ninad Yadurkar	Educational and Engineering Equipments, Pune ACE Grades, Kolhapur
	Mr. Ganesh Gaekwad	Symantec Corporation
	Dr B Ravi	IIT, Bombay
	Dr. S. V. Joshi	VIT Pune
	Dr Sripad Mahulikar	IIT, Bombay
	Mr.Arvind Paranjape	TATA Power
	Mr. Deepak Tamras	SIMS Lonawala

Department	Name of eminent researcher visited	Name of organization
	Mr. A.G. Deshpande	AG Group of Industries
	Dr. R. Balasubramaniam	BARC, Mumbai
	Dr. S. R. Kajale	SGGS, Naded
	Dr Suhas Joshi Dr Milind Akarte	IIT, Bombay NITIE, Mumbai
	Dr N Ramaksrishnan	IIT Gandhinagar
	Dr Ramesh Kumar Singh	IIT Bombay
	Mr Alokkumar Srivastava	Indian Satellite Research Organisation
Electrical	Dr. W.Z. Gandhare	Government College of Engineering Amravati
	Dr. Deepak Waikar	Singapore
	Prof. K.C. Chatterjee	IIT , Bombay
	Prof. Shailendra Jain	NIT Bhopal
	Shri M. J. Deshpande	MSEDCL
	Shri S. Kaware	HVDC, Padghe
	Shri Arvind Paranjape	TATA Power Ltd.
	Sanjay Gawade	Nashik
	Dr. T. K. Basu	IIT, Kharagpur,
Electronics	Dr. S.C. Dutta Roy	IIT Delhi
	Dr. D. K. Sharma	IIT Bombay
	Dr. C. P. Ravikumar	Texas Instruments, Banglore
	Mr. Prashant D. Devatale	Geometrics, Pune
	Mr. Manojkumar	Altium Technologies
	Prof. James M Cornrad	UNCC, USA
	Mr. Ganesh Bhokre	Silicon Machines, Pune
	Mr. Binu	Entuple Technologies
	Prof. Dr. R. R. Manthalkar	SGGS, Nanded
	Mr. Santosh Nene	Intersil, Bangalore
	Prof. Mandal	TTL Tech, Bombay
	Mr. Rashesh Patel	CEERI, Pilani
	Mr. Pravin Chigudi	Applied Micro, Pune
	Mr. Mahendra Kane	L & T, Mumbai
	Prof. Sachin Patwardhan Prof. Sharad Bhartiya	IIT Bombay IIT, Hyderabad
	Mr. Arunkumar	IIT, Hyderabad
	Mr. Santaram	IIT Bombay

Department	Name of eminent researcher visited	Name of organization
	Prof. V. R. Sule	IIT Bombay
	Dr. V. M. Gadre	
CSE	Prof. Soham Sohani	University of Oclahama
	Prof. Venkat	University of Houstan, USA
IT	Sayan Bhattacharya	IMSc Chennai
	Jugal Garg	MPI-Informatik, Germany
	Milind Sohoni	IIT Bombay
	Nicole Immorlica	MSR New England, USA
	Naveen Garg	IIT Delhi
	Dr. Soham Sohani	Arizona University, USA
	Dr. Venkat	Hoston University, USA
	Dr. Mohit Tahiliyani	NITK
	MandarGurav	IITB
	Suhas Sapate	AMCOE
	Dr. Ashok Deshpande	COE, Pune
	Suhas Gogate	Yahoo, USA
	Jayant Walvekar	PSL, Pune
	Dr. VenkatHoston	University, USA
	Prof. Vijay Singh	DRDO
	Cdr. Thakur	DRDO
	Prof. Dr. B. R. Sule	IITB
	Prof. Jaya Panvalkar	NVIDIA, Pune
	D. M. Deshpande	Govt. of New Zealand
Mathematics	Prof Om Ahuja	Prof Om Ahuja
	Prof Ram Mohapatra	Prof Ram Mohapatra
	Prof Daoud Bshouty	Prof Daoud Bshouty
College	Prof. Lueny Morrel	HP Labs US
	John S. Lamancusa	

3.1.7 What percentage of faculty have utilized sabbatical leave for research activities? How has the provision contributed to the research quality and culture of the

College?

The facility of availing sabbatical leave for research activities is available. However, the facility has not been availed by the faculty. However, some of the faculty (Prof. D. B. Kulkarni and Dr. B.F.Momin) have visited institutes/universities outside India and carried out research work.

3.1.8 Provide details of national and international conferences organized by the College highlighting the names of eminent scientists/scholars who participated in these events.

The various departments in the college have organized conferences/training programmes. The list of programmes and eminent scienctists/scholars participated in those events are given in the Table 3.4.

Table 3.4:
List of programmes and eminent scientists/scholars participated

Department	Name of conference/FDP/Seminar	Eminent scientists/scholars attended
Civil	Two day training programme on "Advanced water treatment plant design"	Sunil Patkar, Chemical Engineer, Pune"
	Two day seminar on "Campus to Corporate	Gurmeet Singh
	Two day seminar on "Appropriate methodologies for municipal solid waste management for Indian conditions"	Dr. S. Y. Mhaske, VJTI Mumbai Prof. P. P. Bhave, VJTI, Mumbai G. S. Fulari, MPCB D. B. Prabhu Dr. S. T. Mali, SCE., Pune
	Two days certification course on ""Internal Auditor Training For "ISO 14001:2004 (EMS) And OHSAS 18001:2007 Integrated Management	R. Vinod Systems And Services Certification Sr. Executive - Training Services, Mumbai

Department	Name of conference/FDP/Seminar	Eminent scientists/scholars attended
	Systems''	
	Two day workshop on Environmental management lifecycle sustainability assessment and industrial waste treatment	Dr. P. P. Kalbar, Free lance consultant Thane
	One week short term training programme on "Current practices in Environmental Engg.,	Dr. B. Subbarao, EPRF, Sangli Dr. S.V.Ranade, Dnyandeep Infotech., Prof. J. M. Gadgil, Sangli Dr. S. S. Santpur, Sangli Sunil Patkar A. Vadangaokar, Amalgam, Pune Narendra Zende, ARTI, Phaltan Vijay Gholap, Dhruv Cons., Mumbai Rakhee Sunar, Dhruv Cons, Mumbai
	AICTE sponsored nationalseminar on "Recent Practices and Applications in Civil Engineering"	Prof. V. V. Karjini, SGIT, Atigre Dr. P. C. Deka Prof. S. Srihari Prof. M. B. Kumthekar Manoj Chavan, CDAC Pune Ashish Deosthali, All India Institute of Local Self Govt. Dr. S. V. Ranade
	2 days State level training programme	Dr. S. G. Joshi, Shri. Patwardhan

Department	Name of conference/FDP/Seminar	Eminent scientists/scholars attended
	under TEQIP on "Effective Role Execution for Institutional Development" 13th-14th Feb. 2008.	Dr. Shri Sahasrabuddhe
	Expert Lecture and Exhibiton on 'Plumbing Works for Water supply & Drainage in Buildings', on 10 Feb. 2010 at WCE Sangli.	Sponsored by Finolex Industries
	Expert Lecture on "Diagnosis and Water Proofing in Buildings", 16th Sept 2011.	Mr. Tirth.P.Banerjee, Head, Training, Dr.Fixit Institute for SPR (DFI-SPR) for students of CESA, WCE Sangli,
	Expert lecture on 'Opportunities in Project Planning & Management for all Engg. Domains'9th Oct. 2013	Minash and Kaustubh Panse from iGlobal Solutions, Pune,
	FDP on structural Dynamics and Earthquake Engg 2013	Prof. K.S.Jagdish, IISc.,Bangalore Prof. Ragunath BMSCE.,Bangalore
Mechanical Engineering	WCE-KBL "Turbo-Machinery" Six month Short term course	Dr. S .G. Joshi and experts from Kirloskar Brothers Ltd, Pune
	Recent Trends in Manufacturing Technology RTMT-2010	Dr. T. H. Rao,Dr. R. Balasubramaniam, Dr. S. R. Kajale
	Recent Trends in Heat Exchangers RTHX-2011	Mr. Uday Mahajani, Mr. Abhjeet Vaze, Dr. Neeraj Agarwal, Dr. Archana Gupta

Department	Name of conference/FDP/Seminar	Eminent scientists/scholars attended
	Recent Trends in Manufacturing Technology, RTMT-2011	Dr. B.Ravi, Dr. Suhas Joshi, Mr. Alex Ganz Mr. Gokul Andhare, Mrs. Prabhatai Kulkarni
	Work shop on Project Management	Mr. Girish Kelkar, Mr. Himanshu Varudkar Mr. Ronald Naik, Mr. Vivek Date, Dr. M.G. Korgaonkar, Mr. Jay Dolkiya
	Workshop on Vibration and noise monitoring	Dr. S.G.Joshi
	"Mechatronics, control and solving engineering problems by mathematics"	Dr. Shivharan
	Recent Trends in Manufacturing Technology RTMT-2012	Dr. Ramesh Kumar Singh, Prof. Sachin Mastud, Prof. M.V.Kavade, Mr. Rahul Thete, Mr. Nyayadhish, Mr.Nikhil Waze, Mr. Nikhil Padate
	Workshop on Aesthetics, Ergonomics and Creativity in Design	Mr. Makarand Kale
	Recent Trends in Heat Exchangers RTHX-2012	Experts from Kirloskar Brothers ltd
	One Week workshop on Research in Production and Industrial Engineering	Dr. S.S. Joshi, Dr. S. S. Mohite, Prof. M. T .Telsang, Prof. M.V.Kavade, Prof. V.D.Shinde, Prof. Sachin Mastud

Department	Name of conference/FDP/Seminar	Eminent scientists/scholars attended
	"Recent trends in Design and Manufacturing Technology"	Prof . N Ramkrishnan
Electrical	One week Workshop on PLC, HMI, VFD, TRANSMITTER VALVES and SCADA	Experts from Educate to Automate
	Seminar on Renewable energy resources	Dr. W.Z. Gandhare Government College of Engineering Amravati
	Research avenues in renewable energy resources	Dr. Deepak Waikar , Singapore
	Five days faculty development program on power electronics and quality	Prof. K.C. Chatterjee (IIT Bombay) Prof. Shailendra Jain (NIT Bhopal)
	Three days workshop on PLC and SCADA	Sanjay Gawade Nashik
	One day workshop on DSP applications	Sanjay Joshi
Electronics	Two Week Workshop on "Cadence Software"	Mr. Binu, Entuple Technology
	Two Week Workshop on "Altium" One Week Workshop on "Embedded System Design"	Mr. Manojkumar, Altium Prof James M Cornrad, USA
	A one Week Workshop on "LabVIEW"	Organized by Eln Dept. WCE, Sangli along with LabVIEW
	Two Week Workshop on "Signals and Systems" Two Week Workshop on "Signals and systems"	Professors from IITB and IITK MHRD and IIT Bombay and IIT Kolkatta

Department	Name of conference/FDP/Seminar	Eminent scientists/scholars attended
	Two days workshop on Design using Sensor N/W Two days workshop Sensor N/W	PervCom Consultant, Kolkatta IIT, Hyderabad
IT	School on 'Algorithmic Game Theory'	1. Sayan Bhattacharya, IMSc Chennai
		2. Jugal Garg, MPI-Informatik, Germany
		3. Milind Sohoni, IIT Bombay
		4. Nicole Immorlica, MSR New England, USA
		5. Naveen Garg, IIT Delhi
Mathematics	Int. workshop on complex analysis and applications	Prof Michale Dorff, USA Prof Teodor Bulboca, USA. Prof Ram Mohapatra, USA. Prof Ilpo Laine, Finland. Prof Indrajit Lahiri, India. Prof S.R.Kulkarni, India.

3.1.9 Details on the College initiative in transferring/advocating the relative findings of research of the College and elsewhere to the students and the community (lab to land).

The college has taken initiatives to implement many findings of research within campus and outside campus.The outputs from PG dissertation and Ph.D work have been implemented. They are listed in Table 3.5.

Table 3.5:
Initiative (lab to land) in transferring your research to the students and the Community

Department	Labs	Name of Research Work	Application / Implementation
Civil Engg.	Environmental Engg.	Roof top rainwater harvesting system and development of package inline treatment	Implemented in college campus
		treatment for domestic wastewater	Implemented in staff quarter
		Grey water treatment system	Modifications carried out for an existing system in Wanleswadi
		Performance Appraisal of Water Purification and Distribution System	Modifications implemented in water treatment plant in college campus
		Rehabilitation and Capacity Augmentation of Water Treatment Plant	Implemented in water treatment plant at Malbunglow, Sangli
		Study of pollution status of Krishna river stretch from Sangli to Haripur	Baseline data on river water quality
		Impactof sewage disposal on groundwater quality	Groundwater quality mapped for Sangli
	Hydraulics and Water Resources	Rectification of Drip irrigation system, Watershed development project	Drip irrigation system applicable for Grapes and Pomegranate garden,

Department	Labs	Name of Research Work	Application / Implementation
			Watershed development project carried out around Sangli area.
	Building Materials, Construction Engg. and Mgmt.	Low cost and Energy Efficient Building Designs	Application of Filler slabs, Stabilized Mud Blocks, Composite Beam-panels roofs for residential buildings in and around Sangli.
	Geotechnical Engg.	Research an black cotton soil towards reduction of flooring distortions	Flooring distortion minimizing on GF when plinth filling is done on BC soil available at site
Electronics	Texas Instruments	Analog Electronics, Embedded System Design	
	John Deere	Embedded System Design	
	Research lab	Content based routing in mobile adhoc network (UG)	Created online library for audio files. Access to the library is through machine connected in mobile adhoc network. Here the students have implemented content matching algorithm for routing of data.
		Content based routing in mobile adhoc network (PG)	Implementation of MAODV protocol of mobile adhoc network using NS2 simulator. Observed the parameters such

Department	Labs	Name of Research Work	Application / Implementation
			as latency and throughput.
CSE		Surface Texture Analysis	The dataset prepared for surface roughness evaluation is being used by students / researchers in other institutes also.
IT	NI LAB(Just initiated)	Robotics	Robotics projects
	HPC	HPC	PG & PhD level Projects
	TCS	Theoretical Comp. Sci.	Theory of Computation & R &D
	Multimedia Techniques	Computer Vision	Graphics Projects & Appli.
	Content Creation	Computer Vision	Digital Media Mixing & Creation

3.1.10 Give details on the faculty actively involved in research (Guiding student research, leading research projects, engaged in individual or collaborative research activity etc.)

Table 3.6:

Details of faculty actively involved in research (Guiding student research, leading research projects, engaged in individual or collaborative research activity)

Sr. No.	Name of faculty	Guidance		Research Projects/Areas
		PG	PhD	
Civil Engineering				
1	Dr. K. S. Wagh	**1**	**Nil**	Geotechnical Engg.,
2	Dr. P. G. Sonavane	**20**	**Nil**	Wastewater treatment, Air pollution
3	Dr. G. R. Munavalli	**23**	**5** In progress	Water and Wastewater treatment

Sr. No.	Name of faculty	Guidance		Research Projects/Areas
4	Dr. K. S. Gumaste	4	2 In progress	Energy efficiency in Buildings, Thermal comfort & Illuminance in Buildings Waste Recycling in Building Products
5	Mr. V. D. Salkar	20	Nil	Water and Wastewater treatment
6	Shri. A. K. Kokane	Nil	Nil	Studies on utilization of WTR in Brick Production
7	Shri. A. K. Mali	Nil	Nil	Utilization of SCBA in Concrete as SCM
8	Dr. S. N. Tande	197	In progress	Structural Engg.,
9	Shri. S. B. Kadam	3	Nil	Structural Engg.,
10	Prof. J. P. Patankar	13	Nil	Structural Engg.,
11	Dr. A. B. Kulkarni	90	4	Structural Engg.,
12	Dr. N.G. Kulkarni	2	Nil	Structural Engg.,
Mechanical Engineering				
1	Dr. B.S. Gawali	387	In progress	Heat power Engg.,
2	Dr.S.P. Chavan	306	In progress	Development of Metallurgy laboratory Development of Rasin making system Study of Static & Dynamic Behaviour of HCS
3	Mr.M.B.Patwardhan	3	Nil	Heat Power Engg.,
4	Mr.M.S.Joshi	6	Nil	Heat Power Engg.,
5	Dr.U.A. Dabade	427	In progress	Research in electro discharge machining Machining of MMCs
6	Dr.K.H.Inamdar	35	Nil	Development of Automated Inspection Method for Metal Castings
7	Dr. S.U.Sapkal	41	In progress	Heat powe Engg.
8	Dr.R.G.Chougule	2	Nil	Production ENgg.
9	Mr.B.N.Naik	1	Nil	Design Engg.
10	Mr.S.V.Gaikwad	3	Nil	Production ENgg.
11	Mr.M.M. Khot	6	Nil	Design and development of a

Sr. No.	Name of faculty	Guidance		Research Projects/Areas
				flexure bearing for miniature linear compressor
12	Mr.A.U. Paranjpe	3	Nil	Design Engg.
13	Mr.A.B.Admuthe	4	Nil	Design Engg.
14	Mr.P.A. Mane	5	Nil	Heat Power Engg.,
15	Mr.V.B.Swami	1	Nil	Heat Power Engg.,
16	Mr.A.P.Patil	5	Nil	Study of Static & Dynamic Behaviour of HCS
17	Mr.J.G. Kulkarni	3	Nil	Heat Power Engg.,
18	Mr. S.D. Jagtap	2	Nil	IC engine performance mapping
Electrical Engineering				
1	Dr. Anil P. Vaidya	2004	In progress	High voltage Engg.,
2	Dr. D .R.Patil	70	Nil	Control systems
3	Mr. Vanamane Shankar S.	17	Nil	Power systems
4	Dr. D. S. More	12	1 In progress	Control systems
5	Mr. A. B. Patil	10	Nil	Control systems
6	N. V. Patel	2	Nil	Control systems
7	Dr. M. M. Waware	5	Nil	Control systems
8	Mrs. S. L. Shaikh	5	Nil	Power systems
9	Mr. R. P. Hasabe	3	Nil	Power systems
10	Mrs. Seema P Diwan	4	Nil	Power systems
Electronics				
1	Dr. Mrs. S. S. Deshpande	4	1 In progress	Instrumentation and Control, VLSI System, Image Processing
2	Dr. Mrs. S. Subbaraman	40	4	VLSI System
3	Mr. S. N. Kore	5	Nil	Signals and Systems, Communication Engineering
4	Mr. V. B. Dharmadhikari	6	Nil	Embedded System
5	Mr. B. G. Patil	6	Nil	Embedded System, Image Processing
6	Mr. S. G. Tamhankar	5	Nil	Computer Networks
7	Dr. Mrs A. A. Agashe	6	Nil	WSN, Image Processing
8	Mr. S. K.	5	Nil	VLSI Systems, Industrial

Sr. No.	Name of faculty	Guidance		Research Projects/Areas
	Parchandekar			Electronics
9	Mr. R. G. Mevekari	5	Nil	VLSI Systems, Embedded System
10	Dr. S. D. Ruikar	3	Nil	Image Processing, Communication
11	Mr. S. B. Dhaygude	2	Nil	Communication Engineering
12	Mr. Y. B. Mane	8	Nil	Embedded System
Computer Science and Engineering				
1	Dr. P.J. Kulkarni	55	07	Development of Neuro-fuzzy system for HCI applications based on eye-gaze tracking
2	Dr. B.F. Momin	13	02 in progress	Design and Implementation of Surveillance Mining System
3	Dr. S.H. Bhandari	01	-	Surface Texture Analysis with Wavelet Transform for Product Quality Monitoring
4	Dr. S.H. Bhandari	02	-	Exploring Image Analysis Techniques for Detection and Classification of Malignant Breast Lesions
5	Mrs. M.A. Shah	01	Nil	Design and development of Content based routing protocol for MANET
6	M.K. Chavan	01	-	Detection and Analysis of Malwares
Information Technology				
1	Dr. D. B. Kulkarni	50	08	Development of Problem Solving Environment (PSE) for scalable High Performance Computing High Performance Computing, Networking
2	Dr. S. P. Sonavane	15	03 In progress	Capacity Estimates, Analysis & Design of Improved Algorithms for Data Hiding in Compressed Images Image Processing, Security, TOC Implementation of Cellular Automata for Multi-share Cryptography Security

Sr. No.	Name of faculty	Guidance		Research Projects/Areas
3	A.J. Umbarkar	05	Nil	Hadoop, Revolutionary Algorithm, Information Security
4	U. B. Chavan	04	Nil	Parallel processing, Image/video processing
Mathematics				
1	Dr S.B.Joshi	01	01	Complex analysis

3.2 Resource Mobilization for Research

3.2.1 What percentage of the total budget is earmarked for research? Give details of major heads of expenditure, financial allocation and actual utilization for last four years.

40% of the total budget is earmarked for research. The major heads of expenditure, financial allocation and actual utilization is given in Table 3.7.

Table 3.7: Budget and utilization details

Item	Budgeted in CFY 2014-15 (in Lakhs)	Expenses in CFY till June 2014 (in Lakhs)	Expenses in CFYm1 2013-14 (in Lakhs)	Expenses in CFYm2 2012-13 (in Lakhs)	Expenses inCFYm3 2011-12 (in Lakhs)
Infrastructure Built-up	80.00	--	54.07	35.70	27.03
Library	20.,00	3.01	20.67	52.45	27.13
Laboratory equipment (DRF, TEQIP)	56.70	73.96	481.80	223.96	106.02
Laboratory consumables (Recurring)	43.00	2.89	9.88	12.35	0.98
Teaching and non-teaching staff salary	30.99	50.68	1769.45	1873.84	1445.30
R&D(RPS, BARC)	55.90	8.24	61.23	22.71	84.32
Training and	67.38	13.05	44.61	13.00	0.09

Item	Budgeted in CFY 2014-15 (in Lakhs)	Expenses in CFY till June 2014 (in Lakhs)	Expenses in CFYm1 2013-14 (in Lakhs)	Expenses in CFYm2 2012-13 (in Lakhs)	Expenses inCFYm3 2011-12 (in Lakhs)
Travel(TEQIP Training)					
Others Specify					
Total	**353.97**	**151.83**	**2441.71**	**2234.01**	**1690.87**

3.2.2 What are the financial provisions made in the College budget for supporting student research projects?

There is a separate allocation "Project and paper submission" for supporting student research projects. The students procure the components required for their experimentation work and avail registration fees for attending conferences to present their work. In addition student research projects are supported under Development Reserve Fund, and TEQIP.Industrial and study visits are also supported by the college.

3.2.3 Is there a provision in the institution to provide seed money to faculty for research? If so, what percentage of the faculty has received seed money in the last four years?

There is a provision for seed money for faculty under TEQIP. 10% of the faculty have availed the facility of seed fund under TEQIP in last four years.

3.2.4 Are there any special efforts made by the College to encourage faculty to file for patents? If so, provide details of patents filed and enumerate the sanctioned patents.

The college has encouraged and financially supported faculty to file for patents. The list is given in Table 3.8.

Table 3.8: List of patents

Sr. No.	Name of faculty	Title of patent	Sanctioned/ In process
1	Dr. S.P. Chavan	Automatic solar tracking system for collector dish without use of electricity	In process
2	Dr. S.P. Sonavane	Filed patent in April 2012 in the	In process

Sr. No.	Name of faculty	Title of patent	Sanctioned/ In process
		field of Computer Vision and Security with financial support of TEQIP-II.	
3	Dr. K.H. Inamdar	Method and apparatus for analysis of roughness quality of flat metal surface by image processing	In process
4	Mrs. S.P. Sonavane	Process for image authorization authentication and integrity check.	In process
5	Dr, Y. V. Joshi & Mr. N.G. Apte	A System and Method for Detecting Unbalance in a rigid rotor Using a Dynamic Balancing Machine	In process
6	Mr. S.V. Ramchandre	An innovative method for Heating water by using PTFE coat or the like	In process
7	Dr. S.P. Chavan	A System for Turning Vehicle with Minimum Turning Radious	In process
8	Dr. S. Subbaraman	Pass Transistor Adiabatic Logic Circuit Standby Mode(PAL2NSM)"	In process

3.2.5 Provide the following details of ongoing research projects:

Table 3.9: Ongoing Research Projects

	Year wise	Number	Name of the project	Name of the funding agency/ Industry	Total grant received (Rs. Lakh)
A. College funded					
Minor projects	2013-16	02	Wastewater treatment by aerobic and anaerobic SBR	Seed fund under TEQIP-II	3.00
	2013-15	01	Characterization of Burnt Clay Bricks of Maharashtra	Seed fund under TEQIP-II	1.15

	Year wise	Number	Name of the project	Name of the funding agency/ Industry	Total grant received (Rs. Lakh)
	2013-15	01	Improving performance of existing rapid sand filters in urban water treatment plants and trying appropriates water purification alternative for rural area	Seed fund under TEQIP-II	1.70
	2013-15	01	Food Waste Management	Seed fund under TEQIP-II	1.70
	2013-15	01	Indoor air quality investigation in school buildings situated in sangli District	Seed fund under TEQIP-II	1.97
B. Other agencies - national and international (specify)					
Minor projects	2013-15	01	Design of PLL Based Frequency Systhesizer For Airborne Systems	IIT Bombay	-
	2013-15	01	Hardware Realization of Stereo Camera and Associated Embedded System	IIT Hyderabad	-
	2013-15	01	FPGA Ipmlementation of Kalman Filter	IIT Bombay	-
Major projects	2013-14	01	Studies on utilization of Water Treatment sludge in the vitrification of Burnt clay Bricks for Buildings	RPS - AICTE	16.30
	2012-13	01	Package Treatment for Domestic Wastewater	RPS- AICTE	22.50
	2013-14	01	Study of Static & Dynamic Behavior of HCS	RPS- AICTE	8.80

	Year wise	Number	Name of the project	Name of the funding agency/ Industry	Total grant received (Rs. Lakh)
	2013-14	01	Development of Automated Inspection Method for Metal Castings	RPS- AICTE	8.80
	2013-14	02	1. Development of new machine topology 2. Performance comparison of Wavelet, Neural and Time domain	RPS- AICTE	15.30 14.40
	2011-12	01	Rasin making process and technology development	BARC	25.0
	2012-13	01	FPGA implementation of MPC	RPS-AICTE	16.0
	2013-16	01	Design and Development of Surveillance Data Mining System	RPS-AICTE	15.50
	2012-15	01	Implementation of Cellular Automata for Multi-share Cryptography Security	RPS-AICTE	8.00
C. Industry sponsored					
Minor projects	2013-15	01	Automation Of Machine and Control System To Optimize Level Car Parking	PARI Automation	-
	2013-15	02	Test Automation Using Virtual Environment	John Deere	4.50
	2013-15	02	Tyre Pressure Monitoring System(TPMS)	Hella Electronics	-

	Year wise	Number	Name of the project	Name of the funding agency/ Industry	Total grant received (Rs. Lakh)
	2013-15	01	Marvell's Motherboard Layout Design for Vector Siganl Generator	Marvel Semiconductor	-
Major projects	2008 onwards	01	Air Monitoring	MPCB	16.67 per annum

3.2.6 How many departments of the College have been recognized for their research activities by national / international agencies

(UGC-SAP, CAS, DST-FIST; DBT, ICSSR, ICHR, ICPR, etc.)and what is the quantum of assistance received? Mention any two significant outcomes or breakthrough due to such recognition.

All the six departments (Civil, Mechanical, Electrical, Electronics, Computer science and Engg., and Information technology) have been recognized by one or the other agencies.The recognizing agencies include AICTE, DST, DRDO, MPCB and BARC. The quantum of assistance is given in Table 3.2.5 and .2.7.

The outcome of recognition by Maharashtra Pollution Control Board (MPCB) is awarding fellowships to post-graduate students in Civil Engg, with specialization Environmental Engg.. AICTE recognition has resulted in establishment of minor QIP centre for Ph.D programme and ten regular research scholars per year can be admitted to this programme.

3.2.7 List details of completed research projects undertaken by the College faculty in the last four years and mention the details of grants received for such projects (funded by Industry/ National/International agencies).

Table 3.10:
Completed research projects undertaken by the faculty in the last four years

	Year wise	Number	Name of the project	Name of the funding agency/ Industry	Total grant received (Rs. Lakhs)
A. College funded					
Minor projects	2013-14	WCE/TEQIP Seed Proposals/ 3505 (A. J. Umbarkar)	Design & Development of Parallel evolutionary algorithm for Function Optimization	NVidia (1 Lac GPGPU card donated) & TEQIP (2.5 Lac)	2.50
	2013-14	WCE/TEQIP Seed Proposals/ 3505 (P. K. Kharat)	Design of Robust Protocol for relying scheme in co-operative communication	TEQIP-II	3.25
	2013-14	WCE/TEQIP Seed Proposals/ 3941 (Dr.S.P.Sonavane)	Implementing RFID for college	TEQIP-II	0.60
B. Other agencies - national and international (specify)					
Major projects	2011-13	01	Study on Water Quality and Treatment of Harvested Rooftop Rainwater	AICTE	10
	2010	01	Design and development of a flexure bearing for miniature linear compressor	DST, New Delhi	14.04
	2012	01	Research in electro discharge machining	AICTE, New Delhi	18.20
	2012	01	Machining of MMCs	DST, New Delhi	23.50

	Year wise	Number	Name of the project	Name of the funding agency/ Industry	Total grant received (Rs. Lakhs)
	2010	01	Location management in Wireless Sensor Networks with Mobility	RPS-AICTE	10.35
	2009-12	01	Development of Problem Solving Environment (PSE) for scalable High Performance Computing (PI : Dr. D. B. Kulkarni Co.PI: Shri N. L. Gavankar)	AICTE RPS	3.45
	2010-12	01	Development of Problem Solving Environment (PSE) for scalable High Performance Computing (PI : Dr. D. B. Kulkarni Co.PI: Shri N. L. Gavankar)	NRB-DRDO	46.64
	2010-13	01	Exploring Image Analysis Techniques for Detection and Classification of Malignant Breast Lesions (PI: Dr. S.H. Bhandari)	DST	8.88
	2011-13	01	Development of Neuro-fuzzy system for HCI applications based on eye-gaze tracking. (PI : Dr P.J. Kulkarni)	AICTE RPS	9.20

3.3 Research Facilities

3.3.1 What efforts are made by the College to keep pace with the infrastructure requirements to facilitate Research? How and what strategies are evolved to meet the needs of researchers?

The college has undertaken and initiated many activities to procure equipment and refurbishment works in various departments. Faculty are encouraged to submit research proposals to funding agencies and project specific equipment have been procured in various departments. Refurbishment works are carried out to provide

required space and environment for the conduct of research activities. A separate provision in budget is made for such activities. Library is added with latest edition of reference books,manuals, periodicals, encyclopedias, e-books and handbooks. National and international journalspublished by reputed organizations/publisherslike ASCE, ASME, Springer, IEEE, Elsevier are subscribed. Laboratory and computer facilities are provided 24x7 for students and faculty.Research students have independent rooms and provided with a personal computer with internet connection with 180+20 Mbps internet bandwidth. Wi-Fi facility is available in many parts of college campus. The researchers are provided with the facility of access to Delnet and libraries of other reputed institutes like IIT.

3.3.2 Does the College have an information resource centre to cater to the needs of researchers? If yes, provide details on the facility.

Yes. Information resource centre exists in the central library to cater the need of researchers. The centre provides facility for ONLINE PUBLIC ACCESS CATALOGUE (OPAC), E-LEARNING RESOURCES,SCIENCE DIRECT,SPRINGER LINK,ACCESS ENGINEERING LIBRARY,DEVELOPING LIBRARY NETWORK (DELNET),and OPEN SOURCES [huge resources including world digital libraries]. The research publications by the faculty and students are also available in the library. Any research paper/article is procured through DELNET facility. In addition to the central library departmental libraries also cater to the needs of researchers.

3.3.3 Does the College provide residential facilities (with computer and internet facilities) for research scholars and faculty?

The college provides bachelor accommodation in campus for research scholars. However, residential facilities are provided to the faculty in campus.

3.3.4 Does the College have a specialized research centre/ workstation to address challenges of research programmes? If yes, give details.

The various departments have good laboratory well-equipped facilities. There are few specialized and sponsored laboratories like John Deere Advanced Research Centre in embedded system (Electronics department), High performance computing (Information technology department).The college is nodal centre for virtual laboratory.The details of facility available are listed in Table 3.11

Table 3.11: Specialized laboratories and facilities available

Dept.	Name of Laboratory	Research facility available
Civil	Environmental Engg., lab	Facilities available 1. Well equipped Environmental Engg. laboratory 2.Major equipment,
		High volume sampler (ENVIROTECH)
		BOD trak apparatus (HACH)
		UV Spectrophotometer (HACH)
		Portable water analysis laboratory (HACH)
		Magnetic stirrer
		COD reactor and Digestion assembly (HACH)
		Digital analytical balance (Citizen)
		kjeldahl nitrogen assembly
		Atomic absorptionspectrophotometer (ELICO)
		Gas chromatograph (Shimadzu)
		Noise level meter
		Digesdahl apparatus (HACH)
		TOC Analyzer (Shimadzu)
		Zeta meter (Zeta systems)
		Multi-parameter monitoring instrument (Spectralab)
		Rotary shaker
		Bomb calorimeter
		CHNS-O Analyzer (Thermo Fischer)
		Flame photometer (ELICO)
		Jar test apparatus
		Digital chlorine meter (HACH)
		Indoor air quality monitoring equipment (ENVIROTECH)
	Concrete and Material Testing Lab	Verification of material properties
		Validation of experimental results.
		Optimized mix-design.
		Use of admixtures.
		Determination of compressive, tensile, flexural strengths of concrete.

Dept.	Name of Laboratory	Research facility available
		Study of crack pattern and load-deflection behavior of flexural members such as SIPOREX panels, FRP Gates, beams, slabs etc.
	Structural Mechanics Lab	Validation of experimental results.
		Evaluation of tensile, flexural properties of steel material.
		Verification of various geometrical and material properties of steel sections such as angle, Tee, Channel, Plate, Tube and I-section.
		Evaluation of torsional and fatigue strengths of steel materials.
		Study of stress strain behavior of materials.
	Structural Dynamics Lab	Dynamics of a three storied building frame subjected to harmonic base motion.
		Dynamics of a one-storied building frame with planar asymmetry subjected to harmonic base motions.
		Dynamics of a three storied building frame subjected to periodic
		(Non-harmonic) base motion.
		Vibration isolation of a secondary system.
		Dynamics of a vibration absorber
		Dynamics of a four storied building frame with and without an open ground floor.Dynamics of one-span and two-span beams.
		Earthquake induced waves in rectangular water tanks.
		Dynamics of free-standing rigid bodies under base motions
		Seismic wave amplification, liquefaction and soil-structure Interactions.

Dept.	Name of Laboratory	Research facility available
	Computing Facilities	Finite element based analysis and design of steel and concrete structures such as building frames, deck bridges, box-girders bridges, culverts, folded plates, shells, towers, chimneys, bunkers, silos, Nuclear reactors etc.
		Linear and non-linear analysis of structures
		Elastic-plastic behavior of structures.
		Seismic Response of Structures.
		The following software's are available in the lab.
		Stadd-Iii Software For Integratedanalysis And Design
		Stardyne For Staticand Dynamic Analysis And Design
		Staad Pro-Software
		Strap Software Sap2000 And Etabs
		Midas Civil And Gen
		Struds
Mechanical	Computer Lab	Dell Optiplex PC, Internet facility
	Dynamics Lab	Four channel FFT analyzer with Dewesoft Software
	Quantitative Metallography Lab	Quantitative Metallography Lab
	Production Engg. Lab	3 axis CNC machine, Wire cut electro discharge machine
	Automobile Engineering Lab	Models of various systems of automobiles
	Renovation of HE Lab	Flooring and partition in between labs
	Heat and Mass Transfer Lab	Natural Convection heat transfer test rig, critical heat flux and boiling test rig
	Industrial Hydraulics and Pneumatics/ Mechatronics	Electro Hydraulic Trainer, Electro pneumatic trainer , Process Trainer and servo controller

Dept.	Name of Laboratory	Research facility available
Electrical	Power Electronics	**Matrix Converter** 3 Phase to 3 phase matrix converter– with Converter & -18 numbers of Bi directional IGBT – 1200V 90A
		Diode Clamp Five Level Inverter Diode clamped 5 Level Multi level inverter with 4 number of Isolated 100v, 3A dc supply- 24 numbers of 1200v , 90A IGBT – 24 number of OPTO ISOLATOR – IR2112 Driver circuit -24 numbers of isolated auxiliary power supply –
		Three phase Five-Level Cascade Multilevel inverter Three phase Five-Level Cascade Multilevel inverter**.** Maximum Input DC 600V, Output 3-phase, AC 400V, 10A
		DSPACE ACE Kit Implementation software = RTI, MLIB/MTRACE, Experimental Software control Desk developer version CCPPPC- Microtec C complier for Motorola power PC dSPACE ACE kit 1104 – Hardware **Vector Controlled Induction** Vector Controlled Induction Motor Drives 3 phase, 1 HP, 440V, Coupled with suitable load for 1 HP I.M. Torque indicator, Electronic torque controller
	Power systems	**Differential Relay Trainer** Microprocessor/ Microcontroller Based % Differential Relay trainer with transformer .
		Universal relay Test Kit Universal Relay Test Set: Technical Specifications: a) Voltage source 0-300Vmax (300VA min.), b) Current source 0-100A

Dept.	Name of Laboratory	Research facility available
		max.(50 VA min.) , c) Phase angle adjustment between 0-90 degrees
		SCADA system for TLS 08 MODBUS Communication facility , USB / Ethernet based connection interface, Desktop Monitoring of the different points – Primary, Secondary, Receiving End, Load, Cap Bank , Parameters monitoring and control – Active, Reactive and Apparent Power per phase and total, Power factor per phase and average of 3 phases, Voltages – per phase and average of 3 phases, Frequency ,Control of Primary Breaker , Control of Secondary Breaker , Auto and manual modes of operation, Control of Inductive Load Switch ,Control of Resistive Load Switch , Separate control of 10 stages of Capacitor bank , Auto and manual modes of operation
		Earth tester Specifications Range 3 p method : 0.01 ohms to 99.99 Kilo ohms 4 p method : 0.001 to 99.99 kilo ohms, Earth resistance with two clamps : 0.01 to 500 ohms
		Transmission Line simulator Generator Station module consisting of – a) A Generator side transformer 415/110 V, 50 Hz, 3 phase with voltage control facility. b) Multifunction meters on primary and secondary side, for measurement of voltage, current, power (active, reactive), power factor etc. with MODBUS communication capability.

Dept.	Name of Laboratory	Research facility available
		c) MCB Protection d) Numerical 3 Phase Over Current Relay with multiple curve setting and highset-1A/5A Manufacturer- Siemens, Ashida or any other standard make. e) Line Indicators f) Primary and Secondary Breakers g) In Panel Control Buttons
		Numerical Relay Development Environment Essential Relay Hardware-programmable through IDE,
	Power Quality and Harmonics	**CRIO-9076 Integrated Controller and Chassis System** CRIO-9076 Integrated Controller and Chassis System, 400 MHz PowerPC controller, LX 45 Gate FPGA, 4-slots. NI 9205 32-Channel +/-10 V, 250 kS/s, 16-Bit Analog Input Module
		Thermal Imager Thermal Imager with following specifications: IR resolution (FPA size) : 160 x 120 FPA Uncooled Microbolometer, Spectral band : 7.5 µm to 14 µm (long wave), Capture or refresh rate : 9 Hz , NETD (Thermal sensitivity) : < 0.08 °C at 30 °C target temp
		SCOPEMETER 4 CHANNEL 100 MHZ COLOR Bandwidth : 100MHZ, Number of Channels: 4 channels, Real-time sample rate: 1.25 GS/s, Inputs: 4 scope, Independently floating isolated inputs: Up to 1000 V CAT III/600 V CAT IV between inputs, references and ground,

Dept.	Name of Laboratory	Research facility available
		Power Quality Analyzer Fluke 43B, Single Phase Power Quality Analyzer (Fluke make)
		DSPACE ACE Kit Main Processor MPC8240, PowerPC 603e core, 250 MHz 32 kByte internal cache, Timers 1 sample rate timer, 32-bit downcounter , 4 general purpose timers, 32 bit, 64-bit timebase for time measurement
	Control systems	**Twin Rotor MIMO (Helicopter model)** Twin Rotor MIMO System 1.The Twin Rotor MIMO (multiple input, multiple output) system with a high-order, non-linear system and significant cross-coupling
		Inverted Pendulum with cart Digital Pendulum Control System with 1.The Digital Pendulum Control System provided experiments on an inverted balanced pendulum using digital control techniques.2 Single input, single output, non-linear system.
		Allen Bradley Micrologix 1100 plc Allen Bradley Micrologix 1100 plc. * 10 Digital inputs, 6 Digital outputs (2 relay, 4 MOSFET),
		Capacitive level Sensor Kit Capacitive level Sensor Kit :- Water level – 300 mm , leveler- Capacitance type, Resolution = 1mm , accuracy = ( ) 1 mm , prolusion – test signal, Measurement tank (2 Nos)
		Piezoelectric level Sensor Kit Piezoelectric level Sensor Kit :- Water level 0-500 mm, Visual display 7 segment, 3 X ½ digital sensual + pizoresistive trans, Resolution -1 mm, Accuracy ( ) 1 mm. (2 Nos)

Dept.	Name of Laboratory	Research facility available
Electronics	Electronics Design and Automation Lab	Facilities available Well-equipped Electronics Design and Automation Lab
		Major Equipment's
		P-IV computers with internet/ intranet facility.
		Calibrator
		NET Sim
		Cadence Software University Bundle
		Altium Designer 14
	Embedded System & Microprocessor Lab	Major Equipment's
		8085,8051, ARM7 kits & their peripherals
		Digital Storage Oscilloscope's
		Arbitrary function generator
		Universal Programmer
		P-IV computers with internet/ intranet facility.
		PCB Prototype machine
		Embedded System Lab
	Digital Design Lab	Digital Storage Oscilloscope's
		Experiments chassis
		Analog and Digital Electronics Kit's by Texas Instrument
	Industrial Electronics lab	Industrial Drives
		Power Scopes
		PLC Trainer
		SCADA
	Instrumentation & Control Lab	Instrumentation tutors
	PG Lab	NET Sim Research Version
		Dell Computers (20 nos.)
		LabVIEW ad on bords
		LabVIEW software
		Cadence Software University Bundle
	Communication Laboratory	Wifi Network Explorer with development Boards
		Wireless Sensor network Explorer
		Wireless Sensor network Explorer

Dept.	Name of Laboratory	Research facility available
		Zigbee Trainer
		GSM Trainer
		Mobile Phone Trainer
		Bluetooth Trainer
		LABVIEW Academic site with all toolkits
		HP Computers
CSE and IT	High Performance Computing Laboratory	Many core and multi core (32 cores) workstation, High End GPU cluster, Intel Parallel visual studio consist of Intel VTune Amplifier.
	Research Laboratory	Cisco Routers and Firewall, Exata and Qualnet Simulators
	PG – I and PG – II Laboratories	MATLAB 2014 – 25 Users for research in Image Processing, Computer Vision, Artificial Neural Networks etc.
	Database Engineering Lab	Surveillance System setup in WCE campus with gigabit fiber backbone.
		Four Cadyce make ptz day night high end cameras with on line zooming etc.
		Cadyce make NVR with 6 TB built in storage (it stores 4 months data of four cameras)
		QNAP 12 TB Backup storage of surveillance data
		High End workstation with two Intel Xeon processor, 64 GB RAM for video processing
		Separate setup of one camera with local NVR for real time surveillance
	High Performance Computing	Multi core & Many core systems and Allied software

3.3.5 Does the College have research facilities (centre, etc.) of regional, national and international recognition/repute? Give a brief description of how these facilities are made use of by researchers from other laboratories.

Walchand college of Engineering is a research centre recognized by Shivaji university Kolhapur. The students registering for their Ph.D programme with our college as research centre use research facilities (listed in Table 3.3.4) available in the laboratories of various departments. The college is also a QIP centre approved byAICTE New Delhi for Ph.D programme. The research scholars from other institutes also use the library and laboratory facilities.

3.4 Research Publications and Awards

3.4.1 Highlight the major research achievements of the College through the following:

∗Major papers presented in regional, national and international conferences

The summary of papers presented and published in conferences are given in Table 3.12. The list of Major papers presented in conferences during 2010-2015 is provided in Annexure I.

Table 3.12:
Number of papers presented and published in conferences during 2010-2015

Department	Number of Papers presented/published in conferences	
	International	National
Civil	09	07
Mechanical	20	15
Electrical	18	56
Electronics	18	11
CSE	13	03
IT	07	01

∗Publication per faculty

Table 3.13: Publication per faculty

Sr. No.	Name of faculty	Number of Publications in			
		Intl. Journal	Intl. conf.	National Journal	National Conference
Civil Engineering					
1	Mr. V.D. Salkar	02	04	01	06
2	Dr. K. S. Wagh	-	04	01	02
3	Mr. S. V. Ramchandre	0	02	02	01

Sr. No.	Name of faculty	Number of Publications in			
		Intl. Journal	Intl. conf.	National Journal	National Conference
4	Dr. G. R. Munavalli	14	10	11	26
5	Dr. P. G. Sonavane	03	06	07	14
6	Dr. K. S. Gumaste	03	04	05	12
7	Mr. C. H. Wagh	05	07	0	02
8	Dr. S. N. Tande	14	22	07	07
9	Mr. S. B. Kadam	05	06	Nil	03
10	Dr. N. G. Kulkarni	04	03	Nil	03
11	Prof. J. P. Patankar	Nil	Nil	03	03
12	Mr. R. V. Ambekar	01	Nil	Nil	Nil
Mathematics					
1	Dr. S.B.Joshi	03		02	
Electrical Engineering					
1	Prof.Dr.A.P.Vaidya	12	05	01	03
2	Dr.D.R.Patil	09	23	-	02
3	Prof.S.S.Vanamane	04	01	-	-
4	Dr.D.S.More	03	05	01	02
5	Prof.A.B.Patil	03	05	01	01
6	Prof.N.V.Patel	02	02	-	01
7	Mrs.S.L.Shaikh	03	-	-	02
8	Dr.M.M.Waware	06	06	-	01
9	Mr.R.P.Hasabe	04	03	01	01
10	Mrs.S.P.Diwan	03	05	-	01
11	Mr.S.S.Karvekar	-	05	-	01
12	Mr.V.P.Mohale	01	01	-	01
Mechanical Engineering					
1	Prof. G.V. Parishwad	20	34	07	34
2	Dr B S Gawali	5	4	1	1
3	Dr S P Chavan	2	1	5	1
4	Dr U A Dabade	3	10	0	7
5	Dr K H Inamdar	19	17	1	0
6	V B Swami	3	0	0	0
7	R M Chanmanwar	0	0	0	0
8	Dr R C Chougule	1	6	1	2
9	Dr S S Sapkal	0	2	0	0
10	S D Jagtap	0	0	0	2
11	A B Admuthe	0	2	0	0

Sr. No.	Name of faculty	Number of Publications in			
		Intl. Journal	Intl. conf.	National Journal	National Conference
12	A P Patil	0	2	0	0
13	M M Khot	0	1	0	1
14	P A Mane	4	1	0	1
Electronics Engineering					
1	Dr. Mrs. S. S. Deshpande	02	01	-	03
2	Mr. B. G. Patil	03	02	-	02
3	Dr. Mrs. A. A. Agashe	05	-	-	-
4	Mr. S. G. Tamhankar	04	-	-	-
5	Mr. V. R. Gaikwad	02	02	-	-
6	Miss. T. M. Telsang	01	01	-	-
7	Mrs. M. R. Khare	01	01	-	-
8	Mr. S. R. Khedkar	-	01	-	-
9	Miss. P. P. Balgurgi	-	01	-	-
10	Mr. S. N. Kore	07	01	-	-
11	Mr. V. B. Dharmadhikari	03	02	-	01
12	Mr. S. B. Dhaygude	02	-	-	-
13	Dr. Mrs. S. Subbaraman	05	06	02	08
14	Mr. S. K. Parchandekar	01	-	-	-
15	Miss. S. S. Patil	-	01	-	-
16	Mr. Y. V. Joshi	-	01	-	-
17	Mr. B. V. Pawar	-	03	-	-
Computer Science and Engineering					
1	Dr. P. J. Kulkarni	11	08	10	04
2	Dr. B. F. Momin	02	5	-	-
3	Dr. S. H. Bhandari	05	08	01	02
4	Mrs. M. A. Shah	2	6	-	1
5	Mr. M. K. Chavan	3	4	2	1
6	Mr. N. L. Gavankar	-	2	-	2
Information Technology					
1	Dr. Mrs. S. P. Sonavane	06	02	01	---
2	Dr. D. B. Kulkarni	06	10	02	08
3	Dr. S. V. Kulkarni	01	01		
4	Mr. A. J. Umbarkar	11	08	02	04
5	Mr. U. B. Chavan	01	--	04	01
6	Ms. B. S. Shetty	01			01
7	Mr. P. K. Kharat	04	02	01	03

Sr. No.	Name of faculty	Number of Publications in			
		Intl. Journal	Intl. conf.	National Journal	National Conference
8	Mr. M. B. Narnavare	05	--	--	--
9	E.W. Kulkarni	03	02	--	--
10	Miss. U.S.Pawar	02	--	--	--

∗ Faculty serving on the editorial boards of national and international journals

Table 3.14: Faculty serving on the editorial board/Reviewer of Journal

Sr. No.	Name of faculty	International	National
1.	Dr. G.R.Munavalli	Reviewer Water Science Technology, Journal of Environmental Management, Bioresources Engg.,	-
2.	Prof. P J Kulkarni	Reviewer Journal of Engineering Education Transformation (JEET)	-
3.	Dr. B. F. Momin	Neurocomputing Elsevier Journal	-
4.	Dr. S. H. Bhandari	Reviewer 3rd International Conference on Eco-friendly Computing and Communication Systems (ICECCS 2014) from December 18 - 21, 2014 (NITK)	-
		International Conference on Industrial Instrumentation and Control, ICIC 2015 from 28-05-2015 to 30-05-2015 (IEEE, COEP)	-
5.	Chavan Manik K.	Reviewer International journal of Network Security & Its Applications (IJNSA)	-
6.	Dr. S. N.Tande	Reviewer	-
7.	Dr. Mrs. S. P. Sonavane	Reviewer conf. by NIT Suratkal 2014-15	-
8.	Mr. A. J. Umbarkar	**Journals: As a Reviewer**	
		IEEE Transactions on Evolutionary Computation (IEEE)	

Sr. No.	Name of faculty	International	National
		International Journal of Computers & Electrical Engineering(Elsevier)	
		International Journal of Visual Communication and Image representation (Elsevier)	
		International Journal of Combinatorial Optimization Problems and Informatics	
		International Journal of Computer and Electrical Engineering	
		International Journal of Engineering and Technology	
		International Journal of Computer Theory and Engineering	
		International Journal of Computer Science and Information Security	
		International Conference: As a Reviewer	
		International Conference on Soft Computing and problem solving (SocProS 2011)	
		2011 IEEE Conference on Computer Applications and Industrial Electronics (ICCAIE 2011), Malaysia.	
		International Conference on future Information Technology Series (ICFIT Series) 2011.	
		International Conference on Computer Science and Information Technology (ICCSIT 2011), Chendgu, China. ICCSIT-EN40273.	
		International Conference on Computational Intelligence and Communication Networks (CICN2011), Gwalior, India.	
		International Conference on Communication Systems and Network Technologies (CSNT-2011), Karta, J&K, India.	

Sr. No.	Name of faculty	International	National
		World congress on Information technology and Communication Technology 2011, Mumbai, India (WICT 2011).	
		International Conference On Soft Computing for Problem Solving	
10.	Mr. P. K. Kharat	Reviewer conf. by NIT Suratkal 2014-15	-
11.	Dr R G Chougule	International Journal of Production Economics (Reviewer)	-
		International ournal of Production Research (Reviewer)	-
		Proceedings of Institution of Mechanical Engineers – Part B: Journal of Engineering Manufacture (Reviewer)	-
		Proceedings of Institution of Mechanical Engineers – Part B: Journal of Mechanical Engineering Science (Reviewer)	-
12.	Mr.S.S.Karvekar	Worked as Technical chair-Person IEEE conference 2014	-

* **Faculty members on the organization committees of international conferences, recognized by reputed organizations / societies.**

Table 3.15:
Faculty serving on the organization committees of international conferences

Sr. No.	Name of faculty	Title and place of conference
1	Dr. K. S. Gumaste	International Workshop on Complex Analysis and Its Applications, held at Walchand College of Engg., Sangli, 11- 15 June 2012
2	Dr R. G. Chougule	*IEOM* 2015, International *Conference* on Industrial Engineering and Operations Management, United Arab Emirates, Dubai, 3 - 5 March 2015 (Technical committee member)
		The 14th Pacific-Asia Conference on Knowledge Discovery and Data Mining. 21-24 June, 2010 - *Hyderabad*, India (Technical committee member)

3.4.2 Does the College publish research journal(s)? If yes, indicate the composition of the editorial board, publication policies and whether it is listed in international database?

No. The college does not publish research journal. However the college publishes a magazine.

3.4.3 Give details of publications by the faculty:

∗number of papers published in peer reviewed journals (national / international)

Publication by faculty is given in Annexure I. Summary of publications is given in Table 3.16.

Table 3.16: Papers published in peer reviewed journals

Department	Total Number of Papers published in journals	
	International	National
Civil	32	38
Mechanical	37	32
Electrical	24	12
Electronics	25	00
CSE	24	04
IT	34	10
Mathematics	04	01

- ∗ Monographs
- ∗ Chapters in Books

Table 3.17:Chapters in Books

SN	Author(s)	Year	Title	Complete Reference of Book (Publisher, Edition, Page No.)
01	Dr. D .R.Patil, Dipti Tamboli	2013-14	Chapter 27 Performance analysis of Different current controllers for active power filter pp 249 – 258	Proceeding of International Conference on information, Telecommunication and computing. Lecture notes on Electrical Engg. At Springer Scientific business media, New York 2013

* **Books with ISBN numbers with details of publishers**

Table 3.18: Books published by faculty

Sr. No.	Author/s	Year	Title	Complete Reference of Book (Publisher, Edition, Page No.)
1	Deshpande S S., Vishnu V., Patwardhan S.C	2009	Unconstrained NMPC Based on a class of Weiner Models: A Closed Form Solution, In Nonlinear Model Predictive Control	L. Magni et al. (Eds.), LNCIS 384, 481-490, Springer-Verlag Berlin Heidelberg, 2009
2	Mohan Kumar and Munavalli	2005	Modeling Chlorine Residuals In Urban Water Distribution Systems	The Encyclopedia of water, John Wiley and sons Publisher, 2005, 131-137.
3	S.S.Bapat	1992	Knowhow Of Concrete Technology & Soil Mechanics	Shreyas publishers Sangli Second Edition March 1992 P-149-287
4	Tande S. N.	2012	Elastic And Limit Analysis Of R. C. Skew Slabs	LAP LAMBERT Academic Publishing, UK, ISBN: 978-3-659-13084-7, May 2012.
5	Tande S. N. Parate K. and Bargir A.	2012	Non Linear Seismic Analysis Of Bridges	LAP LAMBERT Academic Publishing, UK, ISBN: 978-3-659-14975-7, June 2012.
6	Navin Pise and Guru Munavalli	2012	Domestic wastewater treatment by vermifilter	LAP LAMBERT Academic Publishing GmbH and CO. KG Heinrich-Bocking-Str, 6-8, 66121 Germany, ISBN:978-3-8484-9487-3
7	Dr. S. D. Ruikar	2014	Electromagnetic & Electrical Circuits	Nirali Publication, Pune ISBN : 978 -93-5164-333-3
8	Dr. S. D. Ruikar	2014	Network Analysis	Nirali Publications, Pune ISBN : 978-93-5164-235-0

***number listed in International Database (For *e.g.* Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)**

* **Citation Index –** range: 1-224
* **SNIP:-**
* **SJR:-**
* **Impact factor** – range: 0.5 - 4.0
* **h-index:** 1 – 7

Table 3.19:Citations, h-index of faculty

Name of Faculty	Citation	h-index	I10-index
Prof.Dr.A.P.Vaidya	13	02	-
Dr.D.S.More	52	04	03
Dr.M.M.Waware	14	02	-
Prof.Dr.P.J.Kulkarni	22	4	4
Dr.B.F.Momin	30	2	5
Dr. S.H.Bhandari	14	3	3
Dr. S.M.Deshpande	65	3	5
M.A.Shah	4	1	2
A.R.Surve	1	1	1
M.K.Chavan	1	1	1
Dr.G.R.Munavalli	224	7	7
Dr. P.G.Sonavane	11	2	-
Dr. S.N.Tande	12	2	-
Dr. S.P. Sonavane	9	2	-
Dr. D.B. Kulkarni	31	3	-
Mr. A.J. Umbarkar	22	3	-
Mr. U. B. Chavan	3	1	-
Mrs. B. S. Shetty	6	1	-
Mr. P. K. Kharat	4	1	-
Mr. M.B. Narnaware	6	1	-
Ms. U. S. Pawar	2	1	-

3.4.4 Indicate the average number of successful M.Phil. and Ph.D. scholars guided per faculty.

Table 3.20: M.Phil and Ph.D guidance by faculty on roll

Sr. No.	Name of faculty	Guidance	
		M.Phil	Ph.D
1	Prof. G.V.Parishwad	-	07

Sr. No.	Name of faculty	Guidance	
		M.Phil	Ph.D
2	Prof. P. J. Kulkarni	02	07
3	Dr. G. R. Munavalli	01	-
4	Prof. Shaila Subbaraman	-	04

3.4.5 What is the stated policy of the College to check malpractices and misconduct in research?

The college has a research committee at department level to monitor the progress of research work. The candidates are counseled for the consequences of malpractices and misconduct in research. The final submission of Ph.D thesis is approved and forwarded to university only after the satisfactory presentation before institute level committee (with one external subject expert) and publications based on the study carried out. Publications in peer reviewed journals are mandatory and thereby check any possible malpractice and misconduct in research. Further the research work is extensively guided by the faculty. Even the dissertation works of PG students are monitored and evaluated by a departmental post graduate committee. Asset/stock registers are maintained and Financial audits are carried out.

3.4.6 Does the College promote interdisciplinary research? If yes, how many inter departmental / inter disciplinary research projects have been undertaken and mention the number of departments involved in such an endeavour.

The college always encourages the faculty to carry out studies and organize programmes in interdisciplinary areas. There are some efforts of interdisciplinary research between mathematics and information technology, Computer science and Information technology, Mechanical and Electronics, Mechanical and Information technology, Electrical and Electronics departments. The college has also organized conferences/workshops in interdisciplinary areas.

3.4.7 Mention the research awards instituted by the College.

There is no separate award instituted by the college for research. However faculty are awarded with “Best Teacher”award every year. Research component is one of the parameters for choosing faculty for this award.

3.4.8 Provide details of

∗ Research awards received by the faculty

Table 3.21: Research awards received by the faculty

Sr. No.	Name of faculty	Prize/Award received	Organization/ Institute	Year
Civil Engineering				
1	Mr. S. S. Bapat	Best Teacher Award	MTE Society Pune	2000
2	Dr. G. R. Munavalli	Annasaheb Behrey "Adarsh Shikshak Gaurav Paritoshik", conferred by Maharashtra Technical Education Society, Pune,	MTE Society Pune	2003-04
3	Dr. K. S. Gumaste	Annasaheb Behrey "Adarsh Shikshak Gaurav Paritoshik", conferred by Maharashtra Technical Education Society, Pune	MTE Society Pune	2005-06.
4	Prof. Dr. S. N. Tande	The Suchit Kumar Ghosh Memorial Prize	The Institution of Engineers	2007
5	Prof. Dr. S. N. Tande	The Dr. Jai Krishna Prize	The Institution of Engineers	2009
6	Prof. Dr. S. N. Tande	LEADING SCIENTISTS OF THE WORLD 2012	International Biographical Centre, Cambridge, England	2012
7	Prof. Dr. S. N. Tande	THE CAMBRIDGE CERTIFICATE	International Biographical Centre, Cambridge, England	2013
8	Shri. S.B. Kadam	**Young Scientist Award** under the discipline of "Engineering science and Technology	Uttrakhand State Council for Science &Technology, Department of Science & Technology,Goverment of Uttrakhand. at 6th Uttrakhand State	2011

			Science &Technology Congress-2011 held at Kumaun University, S.S.J. Campus, Almora during 14-16 November 2011.	
9	Dr. G. R. Munavalli	S.V. Patwardhan prize for best paper published	Journal of Indian Water Works Association	2014-15
Mechanical Engineering				
1	Dr R G Chougule	Boss Kettering Award	General Motors Inc	2010
2	Dr R G Chougule	Charles McCuen innovation award	General Motors Inc	2010
3	Dr R G Chougule	GM India Presidents Honour	General Motors Inc	2010
4	Dr R G Chougule	Inclusion in Worlds Who's Who	Marquis, 2008 Edition	2008
5	Dr R G Chougule	Innovation Milestone Award	General Motors Inc	2011
6	Dr. U. A. Dabade	DST- FAST TRACK Young Scientiest Award	DST- INDIA	2012
7	Dr B S Gawali	Consistent Contribution in HVAC	ASHRAE	2012
Electrical Engineering				
1	Dr. Anil P. Vaidya	Best Teacher Award	Walchand College of Engineering, Sangli	2012
2	Dr. D. S. More	Best research paper award	National Power Electronics Conference (NPEC-2011), heldat Bengal Engineering and Science university shibpur, Howrah India, December 2011.	2011
3	N. V. Patel	Ideal Teacher Award	Walchand College of Engineering, Sangli	2003
4	Dr. M. M. Waware	Travel Grant Award	DST,UGC	2010

5	Mr.S.S.Karvekar	Worked as Technical chair-Person IEEE	IEEE Conference	2014
Electronics Engineering				
1	Mr. N. V. Marathe	Late Padmashree Annasaheb Behare Ideal Teacher Award	Indira Behare Charitable Trust, Pune	1999
2	Mr. S. N. Kore			2005
3	Mr. V. B. Dharmadhikari			2010
4	Mr. V. R. Gaikwad	Best teacher	WCE Sangli	2014
Computer Science & Engineering				
1	Mrs. M.A. Shah	Received best presentation award at Doctoral Symposium of DEBS 2014.	IIT, Mumbai	2014
2	Dr. S.H. Bhandari	Research fellowship under Woman Scientist Scheme from DST	DST	2006-07
3	Dr. P. J. Kulkarni	Maharashtra State Best Teacher Award	Govt. of Maharashtra	2011-12
4	Dr. P. J. Kulkarni	Recognition in Who's Who for excellence in Academics		2011-12
5	Mrs. M. A. Shah	Received sponsorship of US$ 400 Best presentation award at Doctoral Symposium of DEBS at IIT, Mumbai	IIT, Mumbai	2013-14
6	Dr. S. H. Bhandari	Best Teacher Award	Walchand College of Engineering, Sangli	2014-15
7	Mrs. M.A. Shah	Received sponsorship of US$ 200 for IPDPS Conference		2014-15
8	M.K. Chavan	Received research fellowship at IIScBangalore and worked on a research project "Analyzing and Verifying Cryptographic Modules in Asterisk for FIPS 140 – 2" in Supercomputer Education Research Centre (SERC) Department.	SERC, DST	2013-14

Information Technology				
1	Dr. D. B. Kulkarni	1. Best Teacher 2.Early Adopler Award ($1500)	WCE, Sangli TCPP of IEEE	2013-14
2	Dr. S. P. Sonavane	Annasaheb Behrey "Adarsh Shikshak Gaurav Paritoshik", conferred by Maharashtra Technical Education Society, Pune	MTE Society Pune, WCE, Sangli	2007-08
3	R.R.Rathod	Annasaheb Behrey "Adarsh Shikshak Gaurav Paritoshik", conferred by Maharashtra Technical Education Society, Pune	MTE Society Pune, WCE, Sangli	2011-12
4	A. J. Umbarkar	1.Best Paper Award 2.High performance GPGPU – Titan card of Rs. 1 Lakh N-Vidia research on Evolutionary algorithm.	BVCON 2009 N-Vidia, Pune	2009-10 2013-14

* **Recognition received by the faculty from reputed professional bodies and agencies**

Most of the faculty are members/life members/fellows ofprofessionalbodies like ISTE, IET, IEI, IWWA,IEEE, CSI etc.

Table 3.22:

Recognition received by facultyfrom reputed professional bodies and agencies

Sr. No.	Name of faculty	Prize/Award received	Organization/Institute	Year
1	Dr. Mrs. S. Subbaraman	Nominated for Techno-Mentor Award	India Semiconductor Association	2008
2	Dr. S. P. Sonavane	Chartered Engg. Academic Advocate	IEI, Kolkata ISACA, US	2013-14
3	Dr. D. B. Kulkarni,	Visiting Fellowship for research work	Science and Engineering Research Council of DST.	
4	Dr. G. R. Munavalli	S.V. Patwardhan prize for best paper published in Journal of Indian Water Works Association	Indian Water Works Association	2014-15

3.4.9 State the incentives given to faculty for receiving state, national and international recognitions for research contributions.

The faculty are provided with financial support towards registration fee, and travel grants for attending conferences. The college also encourages and financially supports the faculty to submit and present the proposals before national funding agencies.The publication charges (if required) for peer reviewed journals is also borne by the college. The expenses by faculty to visit the specialized laboratories/centres/libraries/industriesfor their research work are also reimbursed to faculty.

3.5 Consultancy

3.5.1 What is the stated policy of the College for structured consultancy? List a few important consultancy services undertaken by the College.

The policy of the college is to encourage the consultancy and testing services which will help the faculty both academically and financially. The amount received towards consultancy assignment is distributed in 60% (faculty and staff involved and 40% (College) proportion after deducting expenses incurred. The amount received towards testing services is distributed in 50% (faculty and staff involved and 50% (College) proportion after deducting expenses incurred. The testing activities include water, soil, wastewater, air and noise monitoring, meter etc. Some of the consultancy activities are listed in Table 3.23:

Table 3.23: List of consultancy assignments

Sr. No.	Consultancy activity	Co-ordinator	Year
Civil Engineering			
1	Assessment of leakage in rising main, Hatkanagale	Dr. G. R. Munavalli Dr. P.G. Sonavane	2011
2	Design of Rainwater harvesting system for Godrej Agrovet, Miraj	Dr. G. R. Munavalli Dr. P.G. Sonavane	2012
3	Hydraulic/hydrological balance study for Kalikhan lake conservation, Sangli	Dr. G. R. Munavalli Dr. P.G. Sonavane	2012
4	Design of sewer Kolhapur Municipal Corporation	Dr. G. R. Munavalli	2012

Sr. No.	Consultancy activity	Co-ordinator	Year
5	Technical audit underground drainage system Kolhapur Municipal Corporation	S. V. Ramchandre Dr. G.R. Munavalli K. S. Kadam	2013
6	Technical audit underground drainage system Kolhapur Municipal Corporation	S. V. Ramchandre Dr. G.R. Munavalli K. S. Kadam	2014
7	Design of sewage pumping station, Sangli Miraj Kupwad Corporation	Dr. G.R. Munavalli	2014
8	Technical scrutiny of sewage pumping stations, Sangli Miraj Kupwad	Dr. G.R. Munavalli	2014
9	Bearing Capacity analysis for A/E Infra Project Thane	Mr.S.S.Bapat	2011
10	Bearing Capacity for Maruti wind park	Mr.S.S.Bapat	2011
11	Foundation design and strata verification for Exe.engg PWD	Mr.S.S.Bapat	2012
12	Foundation analysis Kumbhi SSK	Mr.S.S.Bapat	2012
13	Rajarambapu patil ssk	Mr.S.S.Bapat	2012
14	Found analysis for Laxmi engineers Kolhapur	Mr.S.S.Bapat	2013
15	Solapur municipal corporation	Mr.S.S.Bapat	2013
16	Bearing capacity & settlement for bhima SSK	Mr.S.S.Bapat	2014
17	Geotech investigation for proposed collector office	Mr.S.S.Bapat	2014
18	Investigation ,B.C analysis for Forest Academy	Mr.S.S.Bapat	2015
Mechanical Engineering			
1	1. Vibration measurement, diagnosis and dynamic balancing of various rotating machines like fibriser, leveller, ID Fans, FD Fans,		2011-12
2	1. Vibration measurement, diagnosis and dynamic balancing of various rotating machines like fibriser, leveller, ID Fans, FD Fans,		2012-13

Sr. No.	Consultancy activity	Co-ordinator	Year
3	1. Vibration measurement, diagnosis and dynamic balancing of various rotating machines like fibriser, leveller, ID Fans, FD Fans, Centrifugal machines, pumps, blowers etc 2. Calibration of gauges, flowmeters	Dr.S.P. Chavan A.P.Patil A.U.Paranjape	2013-14
4	1. Vibration measurement, diagnosis and dynamic balancing of various rotating machines like fibriser, leveller, ID Fans, FD Fans, Centrifugal machines, pumps, blowers etc 2. Calibration of gauges, flowmeters etc		2014-15
Electrical Engineering			
	Power Quality audit for Pragati Engineering Belgaum Private Ltd.,	Mrs Seema P Diwan	2015
Information Technology			
	1. Course Management System 2. Design Fabrication	1. Dr. D. B. Kulkarni 2. E. W. Kulkarni	2013-14

3.5.2 Does the College have College-industry cell? If yes, what is its scope and range of activities?

Yes. The college has Industry-Institute-Interaction Cell (IIIC). The cell is also associated with Training and Placement activities.

Scope: The scope includes

- Initiation and development of contacts with ndustries/institutes/organizations
- Identification of student and industry needs
- Identification of areas of interaction
- Enhancement of interactions with industries
- Placement of students

Range of activities:The range of activities include

- Organization of collaborative activities like training programmes, expert lectures, industrial visits, career guidance programmes, aptitude tests, personality development, entrepreneurship.

- Interaction with industries for allocating internship to students.
- Guidance to the students for getting sponsored dissertations.

3.5.3 What is the mode of publicizing the expertise of the College for consultancy services? Mention the departments from whom consultancy was sought.

The college has well-established contacts with government, non-government organizationsand industries. The college has good reputation for its consultancy and testing activities in the region. The college web-site provides details of facilities and expertise available in various departments. On the occasion of every interaction with other institutes and industry/organization, the kind of consultancy and testing activities provided by the college are briefed. Departemnts of Civil Engg., Applied mechanics, and Mechanical Engineering are the leading departments in consultancy and testing activities.

3.5.4 How does the College encourage the faculty to utilise the expertise for consultancy services?

The faculty and staff involved in the consultancy and testing activities are paid attractive shares. The expenses incurred are paid in addition.

3.5.5 List the broad areas of consultancy services provided by the College and the revenue generated during the last four years.

Table 3.24: List of broad area of consultancy services and revenue generated

Sr. No.	Broad area of consultancy assignment undertaken	Revenue generated in last four years (Rs. Lakh)
Civil Engineering and Applied Mechanics		
	Building Material testing, Soil testing(Bearing capacity, settlement analysis, Slope designs, compaction control), Water testing, Technical audits, Road material (Bitumen/aggregate) testing,	142.00
	Scrutiny of designs and drawings for structures like GSR, ESR, Sump well, Pump house, various types of buildings, bridges etc., Inspection/checking of quality of buildings, Water Tanks etc., RCC design of elevated storage reservoirs (ESR),Stability certificates, Non-destructive Testing, Concrete Mix Design,	100.03

	Calibrations of proving rings, compressive testing m/c.,Seismic evaluation of old existing structures and retrofitting techniques.	
Mechanical Engineering		
	Vibration measurement, diagnosis and dynamic balancing Calibration of flow measurement instruments, gauges Material testing, microstructure analysis Refrigeration Manufacturing	25.72
Electrical Engineering		
	Power Quality, Harmonics and Energy audits	4.00
Information Technology		
	Software configuration	0.20

3.6 Extension Activities and Institutional Social Responsibility (ISR)

3.6.1 How does the College sensitize the faculty and students on Institutional Social Responsibilities? List the social outreach programmes which have created an impact on students' campus experience.

The college encourages the faculty and students to initiate, participate and implement the programmes which contribute to societal awareness for various issues. There different student clubs/associations (PACE, SOFTA, CESA, MESA, EESA etc) in the

college monitored by faculty coordinator. The activities of these include: organization of awareness programmes (for environment, water conservation, computer education etc), blood donation camps, educating rural populace, building check dams, competitions of school children for the development of soft/drawing/analytical skills, tree plantation etc. NSS is also active in organizing activities which address societal problems.

B.Tech. projects and M.Tech.dissertations in few cases were based on addressing the life problems in rural areas. The water supply and sanitation schemes were designed for some villages. A study on applying Eco-village concept was conducted as a part of PG dissertation.

3.6.2 How does the College promote College-neighborhood network and student engagement, contributing to holistic development of students and sustained community development?

The students are encouraged and supported to organize/ participate in the events where students have scope for working with others. The college is a part of lead college activity of Shivaji university. Under this the students regularly interact with oter college students.

3.6.3 How does the College promote the participation of students and faculty in extension activities including participation in NSS, NCC, YRC and other National/ International agencies?

NSS and Rotaract club are active in the college and many programs have been organized under these. The programmes organized include Shramdan for road cleaning, blood donation camps, Bandhara construction,HIV and social awareness,Voter awareness, Eye check-up camps, Competitions, Personality development etc.

3.6.4 Give details on social surveys, research or extension work (if any) undertaken by the College to ensure social justice and empower the under-privileged and most vulnerable sections of society?

The association of computer science and Engineering students has organized Social IT Awareness Camp (SITAC) in many villages. SITAC activity involves visiting various remote schools and making the students aware about the basics of computer and about many other technological aspects.This year SITAC was conducted on 30th and 31st January 2015, 6th , 7th , 13th ,14th February, 2015. It was a grand success this year.

Nearly 3500-3600 students were part of this campaign. Various schools from Sangli, Miraj, Tasgaon, Madhavnagar, Kavlapur, Kavthemahakal and from other nearby areas were visited. Around 4000 students were part of the campaign.

3.6.5 Give details of awards / recognition received by the College for extension activities /community development work.

The college is recognized is recognized as a training center by industries (e.g. Kirloskar brothers) for training lower cadre workers.

3.6.6 Reflecting on objectives and expected outcomes of the extension activities organized by the College, comment on how they complement students' academic learning experience and specify the values and skills inculcated?

The involvement of students in these extension activities through organization of/participation in extra-curricular activities has helped students to develop their organizational skill, leadership qualities, understanding and inculcation of societal responsibilities, taking up projects of societal concerns, ethical behavior.

3.6.7 How does the College ensure the involvement of the community in its outreach activities and contribute to the community development? Detail the initiatives of the College which have encouraged community participation in its activities.

The college has set-up a separate community cell/polytechnic funded by government of Maharashtra. Numbers of programmes have been organized to address training needs of employed/unemployed/skilled/unskilled persons through this cell. Oureach activities conducted for community development through this cell include training programmes on office automation, accounting, typing, motor rewinding, tailoring, bag/garment making, building supervisor, electrician, foundry, fashion designing, mobile repairing, refrigeration, art work, nursing, AUTOCAD and welding.

3.6.8 Does the College have a mechanism to track the students' involvement in various social movements/activitieswhich promote citizenship roles?

There are different clubs/associations/chapters of student coordinated by the faculty. The involvement of the students in social activites ismonitored through these clubs.

3.6.9 Give details on the constructive relationships (if any) with other institutions in the nearby locality in working on various outreach and extension activities.

The college is part of lead college activity promoted by Shivaji university Kolhapur. The college is lead college in promoting BARC initiated transfer of technology scheme to rural area.

3.6.10 Give details of awards received by the institution for extension activities and/contributions to the social/community development during the last four years.

The college is recognized with good ranking inrankings announced by outlook. The college is recognized institute for TEQIP funding due to its best performance in TEQIP phase I.

3.7 Collaboration

3.7.1 How has the College's collaboration with other agencies impacted the visibility, identity and diversity of activities on the campus? To what extent has the College benefitted academically and financially because of collaborations?

The college has collaborative activities with government and non-government organizations. Impact of it is summarized below:

a. Refurbishment of laboratories
b. Strengthening of laboratories in terms of equipment
c. Exposure of students for real life projects
d. Regular interaction of students and faculty with professionals and academicians
e. Internship/sponsorship to students.
f. Industrial visits

MoU has been done with Mentor Graphics and Applied Micro, Pune for /ASIC design, verifiaction training under Applied Micro, Pune and Mentor Graphics HEP training program. It will help our students to learn VLSI design, verification and testing, which will help in long run to hire best talent from the college to grow VLSI industry in India.

Institute received 10 Licences for 3 years of HEP 1(IC Nanometer Design), HEP 2 (SoC/ASIC Design , Verification & Testing), HEP 5(Cabling & Harness) worth of

Rs. 1.8 lakhs.

3.7.2 Mention specific examples of, how these linkages promote

∗ Curriculum development

Most of theUG projects are carried out for real life problems in all the departments. 40% of the students can opt for sponsored PG dissertations in industry.

∗ Internship, On-the-job training

UG students are allowed to opt for internship for one semester (8^{th} semester).Summer training in industry/organization is a part of curriculum in some of the programmes.Rajiv Gandhi Science and Technology Commission, Govt. of Maharashtra has funded scholarship of Rs. 5,000/- p.m. during June-July for Internship and Rs.10,000/- p.m. during Final Year UG project at the Small or Medium Scale Industry for 30 students.

∗ Faculty exchange and development

Faculty exchange is a part of MoU with other academic institutes. However it is yet to be explored.

∗ Research, Publication

There is increase in number of publications.

∗ Consultancy, Extension

The linkage with government and non-government organizations has promoted consultancy and testing activities. Civil and applied mechanics departments in particular have excelled in these activities.

∗ Student placement

It has improved to great extent. More than 90% students are placed every year.

∗ Any other, please specify

3.7.3 Does the College have MoUs nationally / internationally and with institutions of national importance/other universities/ industries/corporate houses etc.? If yes, explain how the MoUs have contributed in enhancing the quality and output of teaching-learning, research and development activities of the College?

Yes. The college has signed MoUs with reputed institutions, organizations and corporate houses. It has helped to carry out UG projects/internship/PG sponsored dissertations in industries. MoU with corporate houses has enhanced the interaction of student with industries thereby the quality of teaching-learning has improved. The sharing of resources (laboratory/library etc) with other colleges, and organization of collaborative workshops/seminars/training programmes are also a part of MoU.

3.7.4 Have the College industry interactions resulted in the establishment / creation of highly specialized laboratories / facilities?

Yes. Interaction with industry has resulted in specialized laboratories. The name of the centres, industry and departments where in which it is established is given in the Table 3.25.

Table 3.25: List of specialized laboratories/facilities

Sr.No.	Industry/Organization	Centre	Department
1	John Deere	Advanced research centre in embedded system	Electronics Engg.,
2	IBM	Centre of excellence	Computer science and Engg.,
3	MPCB	Air quality monitoring Lab.	Civil Engg.,
4	DRDO	High Performance Computing	Information Technology

The Institute has been selected as a Nodal Centre of Virtual Labs, a Joint Initiative of IIT Bombay and MHRD, Government of India. Virtual Labs can be used to complement physical Labs. Virtual Labs has been designed to provide remote access to labs at IIT Bombay in various disciplines. Physical distances and the limited availability of resources often put restrictions on conducting experiments especially

when they involve sophisticated instruments. Virtual Labs enables the students to learn at their own pace, and to arouse their curiosity.

Any additional information regarding Research, Consultancy and Extension, which the institution would like to include.

The college is a renowned for its testing and consultancy activities. The technical audits are conducted by the college on requisition by government and non-goevernment organizations. The students are involved in consultancy and testing activities to provide them an exposure to handle real life problems. The students are also encouraged to undertake various activities which will help the society.

CRITERION IV: INFRASTRUCTURE AND LEARNING RESOURCES

4.1 Physical Facilities

4.1.1 How does the College plan and ensure adequate availability of physical infrastructure and ensure its optimal utilization?

The college was established in 1947. Since then the adequate availability of physical infrastructure was duly identified and has been planned and constructed accordingly. The college imparts mainly six courses viz. Civil engineering, Mechanical engineering, Electrical engineering, Electronics engineering, Computer science and engineering, and Information technology. Each of the disciplines are provided with built up constructed as per the requirements of AICTE in form of class rooms, laboratories, tutorial and seminar rooms, staff rooms and departmental library. In addition to this there are central facilities in the form of library, computing facility, canteen, student recreational facilities, and auditorium. Allied areas in form of hostels, and mess cater the need of students. The staff quarters provide residing facility for teaching and non-teaching staff. The campus also provides appropriate parking facility for two wheeler and four wheeler vehicles. Some of the common areas are equipped with vending machines for beverages in addition to two kiosks.

Table 4.1 : Details of Built-up Area

Sr. No.	Department/ Amenity	Built up area (Rounded off in sq.m.)
1	Civil	2624
2	Mechanical	5647
3	Electrical	1863
4	Electronics	1481
5	Computer science and engineering	525
6	Information Technology	381
7	Library	4680
8	Central Computing Facility	506
9	Canteen	238
10	Student recreational facility	763
11	Auditorium	466
12	Hostel	9515
13	Mess	1301

The college was selected as a Network Institute for the Technical Education Quality Improvement Programme (TEQIP) both, phase I and II, of the Ministry of Human Resources Development and the World Bank. With funding received under this, old and obsolete equipment in the various laboratories are supplanted with state of art equipment.

It is common practice to prepare and submit budget proposals for equipment procurement and departmental refurbishment by individual department every year. The proposals are scrutinized and funds are sanctioned for subsequent year for the optimal utilization of funds.

It is common practice to prepare research and funding proposals for various funding agencies by individual department every year. The funds thus obtained are utilized optimally for the said purpose.

The central facilities are common areas for all the institutional components and organized, developed and maintained by institute level building planning and maintenance cell.

Every department of the college has Seminar Hall of different capacity in addition to common auditorium and open air theatre as central facility. These may be utilized by any department depending on availability and requirement for the conduct of guest lecture, workshop, training and similar curricular and co-curricular activities amiably.

The classroom quadrangle provides classrooms for all disciplines centrally. In order to ensure its fullest utilization class time table utilization plan is prepared centrally and college timings are adjusted for effective utilization.

All the classrooms, staff amenities, and laboratories are open for all the concerned round the clock to meet their academic requirement.

Students can freely use any of the facility off the college hours for their co-curricular activities.

4.1.2 Does the College have a policy for creation and enhancement of infrastructure in order to promote a good teaching-learning environment? If yes, mention a few recent initiatives.

The college maintains a policy for ambient teaching and learning environment. The institute bears vision of implementing world class educational facilities. In addition to adequate provision of modern class room and laboratory infrastructure for each department, the institute has tie up with world renowned institutes and industries to have real feel of engineering applications.

Recently, MoU's are signed with governmental agency viz. MPCB and renowned industrial organizations like JOHN DEERE, DENFOST, IBM, Applied Micro etc. A few of the laboratories are developed through the industry institute partnership.

There is a common practice to have interaction meetings with IIT professors, industry personnel and researchers. Sharing of expertise and real field experience promotes a good teaching-learning environment. In addition the College provides a sound platform for on line courses and webinars to understand current advances in the field. It is also recognized as nodal centre for accessing virtual lab facilities as provided by IIT, Mumbai for nearby interested organizations.

The students can freely access any of the facilities round the clock and can also opt for interdepartmental course for building their career.

4.1.3 Does the College provide all departments with facilities like office room, common room, and separate rest rooms for women students and staff?

Every department has its own office and it is under the control of HoD of respective department. The departments are also provided with common room in the form of common meeting hall. There is common facility at central level for women students and staff.

4.1.4 How does the College ensure that the infrastructure facilities meet the requirements of students/staff with disabilities?

Most of the structures comprising building infrastructure are single storied and does not impair circulation of even disable persons. The library building is double storied and is provided with ramp to meet requirement in form of horizontal and vertical circulation of disables. The class room quadrangle is also provided with ramp at entry points for easy climbing of wheel chair. The main building, which serves as administrative complex, is double storied old structure and is proposed to refurbish with provision of lift.

4.1.5 How does the College cater to the residential requirements of students?

The college provides hostel facility for more than 1100 students to cater their residential requirement. The capacity and occupancy of various hostels is shown in following table.

Table 4.2: Capacity of the hostels and occupancy

(Built up area rounded off in sq.m.)

Hostel No.	Year of construction	Built-up Area	No. of Rooms	No. of Students	Occupancy per room.
BOYS					
D-4	1960	990	32	128	4
D-5	1960	1020	36	108	3
D-6	1962	1020	36	108	3
D-7	1962	1020	39	117	3
D-8	1962	1020	39	117	3
Total		**5070**	**182**	**578**	
GIRLS					
D-1	1960	990	31	124	4
D-2	1960	990	31	124	4
D-3	1960	990	32	128	4
Cyber	1984	675	23	92	4
New Block	1960	800	38	100	2 & 6
Total		**4445**	**155**	**568**	

Recreational facilities in hostel/s like gymnasium, yoga center, etc. : There is provision of indoor sports facilities such as fully equipped gymnasium, Table tennis, carom, and badminton court provided with Connor performance wood flooring, which is recognized by badminton world federation for international level play. There are additional outdoor sport facilities for cricket, football, volleyball, basketball, and ground tennis. The cricket ground is circumferentially designed with mud track serving as walking trail and running track.

Broadband connectivity / wi-fi facility in hostel/s. : The hostel campus is provided with Secured Wi-Fi Network with 180+20 MBPS internet speed. The facility has MAC base address and user identity base authentication. There is separate access for the facility through Cyberoam Unified Threat Management System. Individual hostel has

separate network and network management for monitoring of utility of net usage for individual users.

4.1.6 How does the College cope with the health related support services for its students, faculty and non-teaching staff on the campus and beyond?

There is a Dispensary in the college campus. A qualified doctor visits the dispensary regularly. It caters to the needs of students and staff working in the college. There is major hospital, viz. Bharati hospital, situated at 1.5 km from college. As and when there is emergency, college vehicle is employed for commutation. There is MoU between the hospital and college for providing essential medical services.

Camps are arranged for health check-up, blood donation and yoga through external agencies in the campus every year.

4.1.7 What special facilities are made available on the campus to promote interest in sports and cultural events?

As mentioned above in 4.1.5, there is a provision of indoor as well as outdoor sport facility for the students and staff. The facilities can be accessed off the college hours. All the students can participate in annual sports competition and social gathering held annually at college. The students can also participate in any competition as per their interest in sports and cultural events organized at university, and state/national level. For each of such activities, the concerned staff advisor guides the student for the participation. Every such participation is encouraged by providing allowances as applicable. The absence in academics due to such participation is accounted for favorably. The best performer, both ladies and gents, in such activity are identified and awarded in annual functions like graduation award ceremony.

For every discipline there is student association e.g. CESA, Civil Engineering Students association (similarly MESA, EESA etc. for other disciplines)for conduct of extracurricular activities established in the college. In addition there are clubs at college level providing a platform for conduct of technical and cultural activities. There is a tradition of celebrating various cultural events annually. It is also customary to arrange state level competition for various technical events attracting participation of more than 2000 students from various colleges. The college level forum of Arts circle helps the students to exhibit their artistic skill through the various events they conduct.

4.2 Library as a Learning Resource

4.2.1 Does the library have an Advisory Committee? Specify the composition of such a committee. What significant initiatives have been implemented by the committee to render the library, student/user friendly?

The central library, Ajit Gulabchand Central Library, has two committees as per University ACT viz. 1] Staff Library Committee and 2] Students library Committee.

The Staff Library Committee is an advisory body nominated by Director, WCE consisting of 13 Members. The formation of the said committee is as follows:

- Chairman: Director's Nominee
- Secretary: Librarian
- Members: Members from all Degree Departments (10 Nos) + One from Humanities

This committee plays a vital role in designing policy matters / decisions for smooth running of the Library. Quarterly meetings are held to discuss the agenda. Responsibilities of Staff Library Committee are Budget Allocation; Policy Decisions; Forming Rules and Regulations and Controlling its implementation; considering demands received from readers and reviewing library rules as per need; Advising Librarian to solve administrative problems; Book selection in co-ordination with their respective heads of departments and advising Library in weeding out procedure.

The Students Library Committee comprises 15 members from all major departments as follows:

- Convener: Chairman of Staff Library Committee
- Secretary: Librarian
- Members: One U.G. & One P.G. from all major department (Nominated by Head of concerned Department) (12 Nos) + One ladies Representative Degree side (nominated by Director) from Humanities + One gents& One ladies Representative Diploma side (Nominated by Director)

This is a recommendatory committee. Student Members collect suggestions from students and discuss those in the Students Committee meeting. The resolutions passed by this Committee are represented by two members nominated by Chairman of library committee in the Staff Library Committee. Quarterly meetings are held to

discuss the agenda. The responsibilities of students committee are safe guarding student's right to get library facilities, co-operating library staff for smooth library functioning, and submission of books recommendations.

The library provides access even off the college hours and provides study sections available for the students. There is provision of home issue section as well as reference section. Majority of students, (1400 students out of 1800), can also avail book bank facility for their personal usage.

4.2.2 The details of relevant sections are as follows:

Table 4.3: Library Details

Total area of the library (in Sq. Mts.)	4680 sq.mt
Total seating capacity	550+ Students
Working hours (on working days, on holidays, before examination days, during examination days, during vacation)	Library (for issue of books) : 9 am to 6 pm, Digital Library and Study Library : 24 x 7 hours Reference Section: 9 am to 10 pm
Layout of the library (individual reading carrels, lounge area for browsing and relaxed reading, IT zone for accessing e-resources)	Boys reading: 792 sq.m.; Girls reading: 633.60 sq.m.; Staff reading: 158.76 sq.m.; Relaxed reading: 200 sq.m.; Digital library: 196.48 sq.m.
Access to the premises through prominent display of clearly laid out floor plan; adequate signage; fire alarm; access to differently abled users and mode of access to collection)	Each floor displays floor plan showing various sections. Each rack has adequate signage showing contents. All the area is provided with firefighting system. Ramps are designed for physically challenged users.

4.2.3 Details on the library holdings

Table 4.4: Library Holdings

Description	Total number
Print : Books: 88314 Back volumes: 12537 Thesis: 2140	1,02,991
Non print: Microfiche = 1700, A=19, V=77	1796
Electronic: e-books: 363 e-Journals: 1060 IEEE : 23703	24763
Others: (Proceedings, abstracts, Content pages collection, question sets etc.)	805

4.2.4 What tools does the library deploy to provide access to the collection?

The following tools are deployed by the library to provide access to the collection.

- OPAC :SLIM21 Web OPAC
- Electronic Resource Management package for e-journals : Mozilla Firefox digitallibrary.htm
- Federated searching tools to search articles in multiple databases : Mozilla Firefox digitallibrary.htm
- Library Website: The library does not have a separate website however it has in-house/remote access to e-publications through Mozilla Firefox digitallibrary.htm(http://10.10.12.108/digitallibrary.htm)

4.2.5 To what extent is the ICT deployed in the library?

ICT is deployed in the library as follows:

- Library automation : Slim21, LibMan

- Number of computers for public access : 30
- Numbers of printers for public access : 2
- Internet band width speed : 180 +20 mbps
- Institutional Repository: Dspace software has been procured recently to serve this purpose. The execution of the same is planned shortly.
- Content management system for e-learning : Visionet e-library suit With 900+ courses
- Participation in Resource sharing networks/consortia : DELNET; INDEST; INFLIBNET

4.2.6 Provide details (per month) with regard to

- Average number of walk-ins : 450 to 500 daily
- Average number of books issued/returned :
  Issued (4615 per month) : 385 Books / per day
  Returned (4172 per month) :348 books per day
- Ratio of library books to students enrolled :
  (102999 books/3000 library members) : 35 books:1 library member
- Average number of books added during last three years :

Table 4.5 : Yearwise Addition of New Books

Year	No of books added
2012-13	1276
2013-14	1088
2014-15	1601
Total in 3 years	3965
Average per year	1321

- Average number of login to OPAC : 1359 hits
- Average number of login to e-resources :
  (84076 hits/12 month) = 7006 per month

- Average number of e-resources downloaded/printed : Every user can download or print the data as per their requirement
- Number of information literacy trainings organized : 2 per semester

4.2.7 Give details of the specialized services provided by the library

- Manuscripts: The contributions in form of research publications are collected every year and kept for reference as bound volume.
- Reference: Faculty as well as students has access to codes, handbook, and manuals in addition to other references. The college has subscribed IIT, Powai library for additional references. Core reference collection of McGraw Hill is also available to all readers through McGraw hill OnlineAccess.
- Reprography: The facility is equipped with Scanners, and photocopying tools.

  The details of scanners and photocopying tools are as follows.

  - Scanner 1) Make: HpLaserjet 3030, Scan Capacity A4 Paper Scan 300 dpi
  - Scanner 2) Make: MFC 8510 DN, Scan Capacity A4 Paper Scan Optical Scanning Resolution: 1200 dpi, Scan Speed Mono:0.0088 sec, Scan Type: Flatbed
  - Scanner 3) Make: FujitsuScanSnap SV600 Hard Book Scanner, Scanning Speed: 3 second upto A3 Size Paper, Overhead Scanner with Simple one touch operation. Multi Cropping Function: can scan multiple items up to 10.
  - Photocopying facility: There are two high resolution machines having make as Canon IR 6570. The printing Capacity as 70 printouts per minute. Printing quality is 2400 dpi equivalent x . The display is digital and speed is less than 3.3 seconds/copy. Resizing of copy is possible from 25% (Reduction) to 400% (Enlargement).
  - ILL (Inter Library Loan Service) : Delnet facilityof ILL and Document delivery facility, can be used to call for any copy of book not available in college library, as per the interest of user. In addition as mentioned above student or faculty of the college can have access to IIT, Powai library.
  - Information Deployment and Notification : The information regarding author, title and subject can be deployed through Open Access Catalogue (OPAC)

- Internet Access : Every user can have access through networking or Wi-Fi
- Downloads: The facility is available.
- Printouts: The facility is available.
- Reading list/ Bibliography Compilation:The information is compiled through content Xerox facility and catalogue index in hard form in addition to OPAC.
- In-house/remote access to e-resources : KulalIT, Vision Net E-learning Suit, NPTEL Videos through digitallibrary.htm
- User Orientation: All the PG Students, UG Students, and all Teachers can avail relevant information through help desk facility. The users are also provided with necessary instructions for the access and usage of digital library. In addition every year students are trained for usage by conducting a workshop at the beginning of the semester and delivering lecture in every class.
- Assistance in searching Databases: The search can be had through 1) Libman Software: OPAC Book Search Facility.2) SLIM Software : Book Search Facility on OPAC Search on Title, Author, Keyword, Accession No.
- INFLIBNET/IUC facilities : N-list
- The library is equipped with Electromagnetic Tattle Tape Based Library Asset Security System. It has (a) EM Detection System with Single Corridor and with Buried Cable hit Model 3M 3501 (Rs.6,97,500/-), (b) Electromagnetic Tattle Tape Security Strips based Circulation Workstation for de/resensitizing Tattle Tape Model 3M 942 (c) Tattle Tape Detection Strips for Books Model 3M B2.
- The library also has surveillance System comprising network of (a) Colour Dome Camera, High Resolution 550 T.V. Lines, 3.6 mm lens, CCD Sensor 3,20,000 pixels – 8 Camera (b) 8 Channel 200 FPS real time DVR Card and with DVR Software CPU base
- The internal spaces are provided with EPABX System comprising 8 Lines Intercom Telephone System, of make : Matrix

4.2.8 Provide details on the annual library budget and the amount spent for purchasing new books and journals.

Table 4.6 : Library Annual Budget

Year	Budget	Amount spent for purchasing new books and journals.
2013-14	Books: 13,85,000+ TEQIP: 2,32,000 Journal: 27,14,000=(4,80,000+TEQIP: 22,34,000)	Books= Rs. 14,79,976/- Journals= Rs. 25,70,856/- Total Rs 40,50,832/-
2014-15 (upto Feb.2015)	Books=07,40,000 Journal=28,40,000 [Lib: 14,40,000 +TEQIP: 14,00,000]	Books= Rs. 6,41,715/- Journals=Rs. 28,12,798/- Total Rs 34,54,513/-

4.2.9 Does the library get the feedback from its users? If yes, how is it analyzed and used for improving the library services.

The advisory committee takes cognizance of feedback received in the users feedback register and used to improve the services.

4.2.10 List the infrastructural development of the library over the last four years.

State of art Library was built in 2008-2009. The infrastructural development in last four years is presented in following table.

Table 4.7: Infrastructural Development in Library

Year	Infrastructural Development	Cost incurred (in Lakhs)	Total Cost (in Lakhs)
2011-12	Book Purchase Journal procurement (Hard copy) Journal procurement Others: Floor washing machine, Split AC, Server	5.36 1.25 2.18 5.35	14.14
2012-13	Book Purchase	10.15	35.36

Year	Infrastructural Development	Cost incurred (in Lakhs)	Total Cost (in Lakhs)
	Journal procurement (Hard copy) Journal procurement Others: IBM server, Honeywell Scanner	1.49 22.24 1.48	
2013-14	Book Purchase Journal procurement (Hard copy) Journal procurement	14.80 1.50 24.20	40.50
2014-15	Book Purchase Journal procurement (Hard copy) Journal procurement Software purchase: library management, GATE practice exam, interview simulator, spoken English simulator Others: Printer, Fujitsu Scanner, Inventory assistant device	10.16 1.78 26.37 5.99 2.78	47.08

The amount expended year wise shows that, there is consistent rise in the resource development.

4.2.11 Did the library organize workshop/s for students, teachers, non-teaching staff of the College to facilitate better Library usage?

Every year, in the beginning of semester workshop named as "Know Your Library" and "Use of Digital Library" are organized for students of UG, PG and staff members.

In addition to this, library has organized the following programs for college librarians at state level and university level

- Workshop on "Internet Awareness and Library Automation for High school librarians" on 04.02.2006
- Workshop on Internet Awareness and Library Automation 11th February 2006

- One day orientation course for college librarians for DELNET on 19.06.2006
- Workshop on Need and Development of Digital Library 11th June 2007
- Workshop on Koha Open Source Library Software 25th January 2013
- Workshop on D-Space 2-6 December 2013
- Workshop on How to Publish Paper 3rd May 2014
- Workshop on Joomla 22-26 Dec 2014

4.3 IT Infrastructure

4.3.1 Does the College have a comprehensive IT policy addressing standards on IT Service Management, Information Security, Network Security, Risk Management and Software Asset Management?

Yes, Cyberoam United Threat Management (UTM) tool which offers comprehensive perimeter and endpoint protection besides providing centralized management appliances, logging and reporting solutions and endpoint data protection is used in the institute for all networked computers. It has the following features

- Application Visibility & Control
- Layer 8 Technology for Identity-based Security
- Advanced Threat Protection
- Web Application Firewall (WAF)

Cyberoam's all-inclusive UTM solution offers a well-coordinated defense through tightly integrated best-of-breed security solutions over a single interface -Stateful inspection firewall, VPN, Wireless Security, Gateway anti-virus and anti-spyware, HTTPS Content Visibility, Gateway anti-spam, intrusion prevention system (IPS), content and application filtering, intrusion prevention system, data leakage prevention, IM Management and control, Layer 7 visibility, bandwidth management, multiple link management, High Availability, 3G/WiMax Modem Support, IPv6 Traffic forwarding support, Traffic discovery and integrated iView Reporting. Cyberoam is unique among UTM appliances due to its identity-based security management paradigm protecting users from unpredictable, insider threats.

4.3.2 Give details of the College's computing facilities (hardware and software)

- Number of systems with configuration P IV & Above: 700 +
- Computer-student ratio : 700/2700 = 1 : 3.8
- Dedicated computing facility : CCF with 120 systems (Besides, each department

has separate computing facility with department specific softwares; the details of this are available in department's evaluative report.

- LAN facility : Yes
- Wifi facility :Yes
- Propriety software / Open source softwares : Linux, Windows
- Number of nodes/ computers with internet facility : All
- Any other :Server, UPS Backup ,Networking, Infrastructure in place

The details are as follows.

Table 4.9: CCF Computing Rack

CCF Rack 1	Hardware Specification	Software/Services
1.HP ProLiant DL380 Generation 5 (G5)	Intel Xeon X5270 Dual-Core processor, 2 GB RAM, Storage Controller HP Smart Array P400/512MB.	Windows 2008 Server, Symantec Endpoint Protection Server./ Distribution and auto deployment
2.HP ProLiant DL380 Generation 5 (G5)	Intel Xeon X5270 Dual-Core processor, 2 GB RAM, Storage Controller HP Smart Array P400/512MB BBWC Controlle.	E-learning Server 600 topics, Web based content access and flash simulation, Visionet
3.HP ProLiant DL580 G7 Server	Intel Xeon 7500 series processors 2.66 GHz, 4 GB RAM	Moodle Server, Complete Institute learning management system
Emerson Liebert PSI UPS	20 KVA UPS	Backup System For All Server in IT Data center.
Supercom Server (3 Nos)	AMD Opteron(tm) Processor 6320, 32 cores, 16 GB RAM, 128 SSD, 2 TB Storage.	CentOS 6.3 OS, Moodle 2.5+ Stable Campus a) Moodle Server, b) File Server, Chat server, Nagios-Server MonitoringTool, RackTables -Asset Managment Tool c) Database Server
CUDA Servers	Intel(R) Xeon(R) CPU E5520 @ 2.27GHz, 8 cores, 16 GB RAM, 500 GB Storage, NVIDIA Corporation G98 [Quadro NVS 295] Graphics Card	CentOS 5.9 Open MPI

CCF Rack 1	Hardware Specification	Software/Services
Layer 3 Chassis Switch	HP Procurve / Extreme 64 Gbps Back Plane 64 fiber / Cu ports any combination with module with VLAN facility	Layer 3 Switching with full management (PORT/IP/TRAFFIC/DATA rate)
ELITECORE Firewall	Cyberoam 8 configurable port with Fi/ Cu option Load balancing and static routing functionality	Complete user manage- ment for internet access Group/user/time/IP/MAC based rules.
Cisco SG200-26 26-port Gigabit Smart Switch	Layer 2with basic L3 management EDGE switch for distribution	Access management
CCF Rack 2		
NEC SV8300 EPABX (2 Nos)	64 IP Phone 128 Phone + 64 Connectivity	IP Phone Management System.
TRENDnet 8-Port USB/PS/2 Rack Mount KVM Switch TK-803R	VGA + USB & PS2 Connectivity	Soft switching Function key define facility.
Dell PowerEdge 2900 Server (2 Nos)	Quad-Core Intel Xeon 5300 sequence processors at up to 3.0GHz, 4GB Fully RAM DIMMs, 500GB Storage.	MIS server ERP Exam / Web DATA
HP ProLiant DL380 Generation 5 (G5)	Intel Xeon X5270 Dual-Core processor, 2 GB RAM, Storage Controller HP Smart Array P400/512MB BBWC Controller.	PfSense Server
Dell OptiPlex 3020	4th Gen Intel® Core™ i5 processors, 8GB RAM, 500 Storage	Ubuntu 12.04, College FTP Server
ISP Fiber termination /MUX /Switch	Fiber to copper convertor For termination to firewall /NAT	Link status speed / monitoring.
Switches	HP L3-5308, HP Pro 2626-L2	Core Chassis switch and Edge switch

4.3.3 What are the institutional plans and strategies for deploying and upgrading the IT infrastructure and associated facilities?

It is proposed to setup private cloud in the institute. The specifications are as under

- **Cloud infrastructure :** The details are given in the following table.

Table 4.10 : Cloud Infrastructure

Item Name	Specifications
Blade chassis	Blade Chassis with - minimum 6 power supplies and 6 cooling FANS, 2 nos of Power distribution Units, redundant interconnects capable of 10G uplink ports for storage connectivity and redundant 1G ethernet switch for external LAN connectivity, can hold Up to 16 half- height , 8 full-height server blades, and/or 8 expansion blades per enclosure. Simultaneously support upto 4 redundant interconnect fabrics (Ethernet, FC, IB, iSCSI, SAS, etc.) within the enclosure. Can support Redundant hot-plug cooling, redundant hot-plug power supplies, redundant connections, redundant interconnect modules, and management modules have fully passive backplane and are rack-mountable.

Blade servers	MNC Branded Blade Servers with 2 Socket Populated Processor AMD Opteron (min 6 ph. cores) or higher specifications 144GB memory using 16GB DIMM's , 2 no of 300GB SAS HDD, 2 Nos 10GB n/w ports, support upto 512 MB memory with DDR3 LRDIMM, 2 Nos empty I/O expansion mezzanine slots for future upgradability, built in storage controller with min. 512MB FBWC
Provisioning & Implementation	Private Cloud implementation with existing Virtualisation license & maintenance support for 3 years as per Institute requirement.

- **Storage**

Table 4.11 : Storage Details

Item Name	Specifications
Storage	Storage should have - dual controllers, minimum two 10GbE iSCSI ports per controller, min. 9 TB usable capacity using SAS drives, appropriate 10Gb cables for connectivity Ease of management featuring browser-based out-of-band access, support 64 controller-based snapshots and clone capability as a standard feature., support min. 2 GB transportable read/write cache per controller, RAID levels 0, 1, 3, 5, 6, 10, 50, maximum 96 LFF drives and 149 SFF drives with drive expansion , support 64 host

- **Switches**

Table 4.12 : Switches Details

Item Name	Specifications
Core Switch L3	L3 Core Switch 48 10GBASE-X SFP+ and 4 40GBASE-X QSFP, dual PSU, and 3 unpopulated fan airflow slots with appropriate licences 10 Gigabit Ethernet SFP+ module: 4 Nos
Edge Switch	Minimum Layer 2 Capability Switch with 48 x 10/100/1000BASE-T Ports, 2 x 1000BASE-X unpopulated SFP (2 SFP ports shared with 10/100/1000BASE-T ports), 2 x 10GBASE-X SFP Note : The edge switch
InfiniBand Switch	InfiniBand Switch, 8 QSFP ports, Short Depth and Half Width Form Factor with 4 Infiniband adapter card, single-port QSFP, IB 40Gb/s and 10GbE, PCIe2.0 x8 5.0GT/s

It is also proposed to enhance the existing Wi-Fi infrastructure in the campus by relocating and upgrading the current set up. The existing Wi-Fi access points will be replaced by dual frequency access points of high range taking into account the current internet usage pattern by students and staff of the institute.

4.3.4 Give details on access to online teaching and learning resources and other knowledge, and information provided to the staff and students for quality teaching, learning and research.

Resources available on intranet are made available through internet. The online examinations for few courses are conducted in CCF and CCF also hosts the course feedback by all students being conducted in every semester.

Faculty of respective department make arrangements for the students to attend technical webinars of their domain. Besides NPTEL video lectures are available on library server which can be viewed from anywhere in the campus. The faculty uploads the technical e_material and course lecture presentations on Moodle enabling the students to study the matter at their own pace. A very good internet facility enables access to open courseware of MIT, Purdue and other reputed academic institutes. The webinars organized through IUCEE are also attended by faculty members. The institute acts as nodal centre for outreach program of IITs, through

which number of faculty members undergo various summer and winter courses delivered by IIT faculty.

All these aspects of on line access helps in enhancing quality of teaching, learning and research.

4.3.5 Give details on the ICT enabled classrooms/learning spaces available within the College and how they are utilized for enhancing the quality of teaching and learning.

All the departments are equipped with multimedia projectors and every classroom is equipped with LCD projector along with wired/wireless internet connection. This facility is used by all faculty for effective course delivery.

4.3.6 How are the faculty facilitated to prepare computer aided teaching-learning materials? What are the facilities available in the College or affiliating University for such initiatives?

The thrust on computer aided teaching and learning has been there by all faculty members since a decade. Most of the faculty prepare power point presentations of the lectures and make judicious use of Chalk-and-Board and ppts to explain and make students learn a particular topic. Good e_material of the respective topics is made available to the students either through Moodle. Question bank, assignments, tutorials are uploaded on Moodle. (The details of Moodle are given below.) Video lectures of eminent professors from IITs available through NPTEL are shown to students assisted by explanation and discussion by faculty.

Moodle is a free, online Learning Management system enabling educators to create their own private website filled with dynamic courses that extend learning, anytime, anywhere.

The main features of Moodle are:

- Modern, easy to use interface with personalised dashboard
- Collaborative tools and activities
- Convenient file management
- Track progress
- Secure authentication and mass enrolment
- Bulk course creation and easy backup

- Manage user roles and permissions
- High interoperability
- Regular security updates
- Detailed reporting and logs

Faculty access different resources like Moodle through intranet and the access of internet resources through Wi-Fi is also available. The facilities available with the institute for such initiatives are as follows:

- **K point features**:

kPoint Central Server with Video Collaboration engine for Creating Video kapsules using MS office, Screen Share, Videos, Whiteboard and Presenter's video. Sharing these kapsules for live trainings / Webinar as you make them or store and use later. Bookmark, MCQ and Interactive capability. Search within kapsule or global search with key words for specific information. Browse and jump slides in forward or backward direction.

- Massive open online courses (MOOC) and Amazon Web Services (AWS)
- Printers/scanners
- List of Software procured through TEQIP phase I and II

Table 4.11 : Software Procurement Through TEQIP I and II

Sr. No.	Products	Qty.
1	Microsoft Office 2003 Professional	60
2	Microsoft Visual Studio .net Professional 2003	60
3	Microsoft Windows 2003 Std. Server	2
4	Microsoft Windows CAL for Server	100
5	Microsoft SQL 2000 Std. Server	1
6	Microsoft SQL CAL	40
7	Redhat Software ver 4	
8	Microsoft® VLAcdmc MOLP - Win SL 8.1 SNGL OLP NL Acdmc Legalization Get Genuine, Part No. - 4HR-00400	100
9	Microsoft® VL Acdmc MOLP - Win Pro 8.1 SNGL Upgrd OLP NL Acdmc Part No.- FQC-08173	100
10	Microsoft® VLAcdmc MOLP - Office Pro Plus 2013 SNGL OLP NL Acdmc Part No. - 79P-04730	50

Sr. No.	Products	Qty.
11	Microsoft® VLAcdmc MOLP - Win SvrStd 2012 R2 SNGL OLP NL Acdmc 2Proc Part No. - P73-06272	3
12	Microsoft® VLAcdmc MOLP - Win Svr CAL 2012 SNGL OLP NL AcdmcDvc CAL Part No. - R18-04271	100

4.3.7 How are the computers and their accessories maintained? (AMC, etc.)

Staff in different departments maintains their own computers through departmental assistance where as other computing facilities provided centrally at department are maintained by CCF

4.3.8 Does the College avail of the National Knowledge Network connectivity directly or through the affiliating University? If so, what are the services availed of?

Yes, the National Knowledge Network (NKN) line with 100 Mbps is in place, tested in the institute recently and the activation from NIC is awaited.

4.3.9 Provide details on the provision made in the annual budget for update, deployment and maintenance of the computers in the College?

Institute provides requisite budget for internet services and maintenance of the equipment in central computing facility and campus network infrastructure. The typical budget on yearly basis is as under.

- Internet Access : Rs. 30 Lakhs
- Equipment procurement & maintenance: Rs. 20 Lakhs

4.4 Maintenance of Campus Facilities

4.4.1 Does the College have an Estate Office / designated officer for overseeing maintenance of buildings, class-rooms and laboratories? If yes, mention a few campus specific initiatives undertaken to improve the physical ambience.

The college has maintenance cell comprising a maintenance in-charge, supervisor and six permanent workers. Four male labors and twelve female labors are contractually employed in addition to regular staff. The routine maintenance is looked after by this cell. Construction and refurbishment of works at individual departments and central

common facilities are planned and executed through services of dean planning and designated officer for land records from civil engineering department. For the major works consultation from external professional agencies are taken for design and supervision of civil works.

Most of the open areas are planted with flowering saplings and fruit bearing trees. Some of the areas are also landscaped with lawn and ornamental plants.

4.4.2 Does the College appoint staff for maintenance and repair? If not, how are the infrastructure facilities, services and equipment maintained? Give details.

It is common practice to appoint housekeeping staff and sundry labors for casual repairs of buildings on yearly basis.

Petty contractors are appointed for some of works by calling quotations for the works.

Usually equipment are maintained through AMC with supplier. However if the equipment is need of calibration or repairs any service provider is consulted to set it right.

CRITERION V: STUDENT SUPPORT AND PROGRESSION

5.1 Student Mentoring and Support

5.1.1 Does the College have an indep endent system for student support and mentoring? If yes, what are its structural and functional characteristics?

Yes, the College has an independent system for student support and mentoring. The student support system comprises of Mentor, Counselor, HoD, Deans. The support system functions through several units such as Departmental Mentoring System, Guidance and Counseling Cell, Placement and Career Guidance Cell, Grievance Redressal Cell, and Committees for all co-curricular and extra-curricular activities. These committees include staff and student representatives and carry out the activities under the supervision of the Director. The mentor meets the students once in a semester in group and individually as and when required. Such meetings enable the mentors to identify and help the academically weaker and economically needy students. The mentor also contributes to the physical, psychological, social and spiritual development of the students.

5.1.2 What provisions exist for academic mentoring apart from class room work?

Students are exposed to in-depth subject knowledge and other multilevel tasks through departmental association/clubs activities, seminars and workshops organized by the departments. Students update themselves on recent trends and developments in the subjects by participating in the training programmes and presenting papers in the state / national level seminars and inter-college competitions. Class tests, assignments seminars, and mini projects are conducted to evaluate the extent of understanding of fundamentals. Use of video lessons (NPTEL) and open courseware PPT's for better understanding of topics by the students outside classroom schedules. Encourage to participate in technical events at various technical institutions, workshops and quizzes with adequate support. Training is provided in soft skill and personality development, group discussion to increase the chances of placement.

5.1.3 Does the College provide personal enhancement and development schemes for students? If yes, describe techniques employed e.g., career counselling, soft skill development, etc.

Yes, the College provides personal enhancement and development schemes for students.

Placement and Career Guidance Cell

Placement and Career Guidance Cell with a team of faculty members has been functioning. UG students are divided into groups and trained by experts in acquisition of aptitude skills, communicative skills, interview techniques and resume writing to enable them to take part in on-campus and off campus drives and to clear competitive examinations.

Soft Skill Development

College offers communicative skills through the regular curriculum as Communication Skills lab and it is offered by the Department of English to cater to the need for language development skills.
Department associations and clubs weekly conduct sessions related to soft skill development.

Academic Counselling

The academic performance of each student is monitored by the course teacher who imparts personal and academic guidance. Academic guidance is given both to the slow and the fast learners by the course teachers and they are properly channelized for their improvement. Student's performance in curricular and co-curricular activities is reported by mentor. The students are motivated and guided for pursuing higher education according to their choice and capabilities.

Other Enhancing Activities

Each and every departmental association organizes a state level technical activity every year, through which they interact with academicians, professionals and also learn event management. Students acquire practical knowledge of the subject by Industrial visits. It helps the students to update their knowledge on current affairs.

5.1.4 Does the College publish its updated prospectus and handbook annually? If yes, what are the activities / information included / provided to students through these documents? Is there a provision for online access?

Online Access:

The college provides online access.
Website(http://www.walchandsangli.ac.in/): A brief history of the institute, department wise faculty details, placements, alumni, anti-ragging, examination section, academics, information on various laboratories, achievement of the students, sports, NCC, NSS, research activities and other important information about the institute is provided. It has course information, academic calendar, and syllabus for the benefit of students.

Yes, the institution publishes information brochure annually and academic booklet half yearly by showing its salient features.

Information brochure contains:

- Brief history about institution
- Management
- Infrastructure
- Program details (UG and PG)
- Brief introduction about departments and laboratories
- Information about library
- Placements activity
- Extracurricular activities
- Achievements

Academic booklet contains:

- Rules and regulations
- Various scholarship details
- Vision and Mission of institute as well as respective department
- Programme educational objectives and program outcomes
- Course details- course objectives and outcomes, teaching plan, assessment details
- Website details for online access

In line with the vision and mission stated in the academic booklet, the institution aims at the holistic growth of the students combining a commitment to teaching excellence with extensive sports and cultural opportunities. The combination of excellent facilities and well qualified staff ensures that this commitment is honored. In addition to this, inputs in the form of feedback from the stakeholders (students, parents, alumni and employers) keep the institution accountable and on the track.

5.1.5 Specify the type and number of scholarships / freeships given to students by the College Management during the last four years. Indicate whether the financial aid was available on time.

No the college is not providing any scholarship. Every year endowment prizes are given by the institute to toppers in subjects, class and overall topper.

5.1.5 What percentage of students receives financial assistance from state government, central government and other national agencies?

Table 5.1 Financial Assistance to UG students

Academic Year	For UG					
	Category	Total No. of Students	No. of students sanctioned financial assistance		Total No. of scholarship (financial support) holders	Percentage
			Renewals	New		
2010-11	ST	20	19	1	20	100
	SC	256	196	60	256	100
	VJNT	205	154	51	205	100
	OBC	358	280	78	358	100
	SBC	84	65	19	84	100
2011-12	ST	26	23	3	26	100
	SC	223	183	40	223	100
	VJNT	196	160	36	196	100
	OBC	366	287	79	366	100
	SBC	84	62	22	84	100

2012-13	ST	48	22	26	48	100
	SC	238	188	50	238	100
	VJNT	195	154	41	195	100
	OBC	374	313	61	374	100
	SBC	87	69	18	87	100
2013-14	ST	1	1	0	1	100
	SC	229	185	44	229	100
	VJNT	170	131	39	170	100
	OBC	283	225	58	283	100
	SBC	62	53	9	62	100
2014-15	SC	212	167	45	212	100
	VJNT	155	123	32	155	100
	OBC	262	213	49	262	100
	SBC	60	47	13	60	100

Table 5.2 Financial Assistance to PG students

Academic Year	For PG					
	Category	Total No. of Students	No. of students sanctioned financial assistance		Total No. of scholarship (financial support) holders	Percentage
			Renewals	New		
2010-11	ST	1	0	1	1	100
	SC	14	2	12	14	100
	VJNT	7	4	3	7	100
	OBC	6	4	2	6	100
	SBC	2	1	1	2	100
2011-12	SC	30	12	18	30	100
	VJNT	13	3	10	13	100
	OBC	18	2	16	18	100
	SBC	5	1	4	5	100
2012-13	SC	40	17	23	40	100
	VJNT	23	10	13	23	100
	OBC	52	21	31	52	100
	SBC	8	4	4	8	100
2013-14	SC	53	23	30	53	100
	VJNT	32	11	21	32	100
	SBC	9	4	5	9	100

Table 5.3 Details of Academic Year wise Financial Assistance (in Rs.) to Students from Different Agencies

Details of Financial Assistance	2013 – 14 (Rs)	2012 – 13 (Rs)	2011 – 12 (Rs)	2010 – 11 (Rs)
Govt. of India merit cum means scholarship	75,000/-	80,000/-	60,000/-	30,000/-
SC and ST	84,82,660/-	86,80,540/-	81,34,295/-	50,47,380/-
State Govt. (OBC) OBC, SBC and VJNT scholarship	1,70,57,302/-	1,37,27,240/-	47,95,035/-	1,47,00,000/-
PST, SST, EBC, EX - SER, JAWAN and FF	7,00,200/-	4,12,000/-	5,46,360/-	5,15,360/-
State Govt. SC and ST Free-ship	40,82,725/-	17,01,245/-	42,23,535/-	60,41,600/-
Any other – specify (Endowment)	1,09,751/-	0	1,09,751/-	1,09,751/-
Management	57,000/-	0	57,000/-	57,000/-
Total Scholarship Amount	**3,05,64,638/-**	**3,44,62,104/-**	**2,46,42,161/-**	**3,70,24,991/-**

5.1.7 Does the College have an International Student Cell to cater to the needs of foreign students? If so, what measures have been taken to attract foreign students?

No, so far no admissions for foreign students.

5.1.8 What types of support services are available for

- Overseas students,
- Physically challenged / differently abled students,
- SC/ST, OBC and economically weaker sections,
- Students to participate in various competitions/ conferences in India and abroad,
- Health centre, health insurance etc.
- Skill development (spoken English, computer literacy, etc.,)
- Performance enhancement for slow learners / students who are at risk of failure and dropouts
- Exposure of students to other institutions of higher learning/ corporates/business houses, etc.
- Publication of student magazines

Overseas students

- No, so far no admissions for overseas students.

Physically challenged / differently abled students

The college is providing the following facilities to the differently abled students

- Preference is given for hostel / in campus accommodation.
- Lecture and Examination halls are provided at the ground floor.
- Ramp is provided at central library.
- Extra time is given for examination of theory paper and labs.
- Administrative support to avail concessional travel to attend conferences, seminars, industrial visits etc. from state and central government agencies.

SC/ST, OBC and economically weaker sections

- SC/ST, OBC and economically weaker Sections are given fee reimbursement provision provided by the Government.
- Social Welfare Department, GoM, book bank scheme is provided to SC/ST students.

Students to Participate in various competitions / conferences in India and abroad.

- Students are encouraged to participate in various competitions and conferences in India with financial assistance from the TEQIP and SWF.
- Large number of students participates in various events organized outside the college.
- Good number of students gets prizes in events organized by Inter University and Inter Collegiate events.
- Students are provided with necessary guidance for the competitions / conferences.

Health centre, health insurance etc.

- First aid boxes are made available at central workshop and laboratories.
- The students are covered under accident Insurance policy.
- There is a Dispensary in the college campus. A qualified doctor visits the dispensary regularly. It caters to the needs of students and staff working in the college.
- College vehicle is available 24 × 7 for emergency.

- College has an agreement with Bharati Vidyapeeth Medical College and Hospital, Sangli Miraj road, Vijaynagar, Sangli, (@ 1 km from college campus) to provide medical services.
- Frequent medical check –up and blood donation camps are arranged (Twice in a year – 4 Blood Banks participation every year).
- Free Eye check-up camps are organised every year for students, staff members and their family by Vasan Eye Care, Sangli.

Skill development (spoken English, computer literacy, etc.,)

- The College conducts Training Programmes in Communication Skills and Soft Skills by professionals. For this a well-equipped, highly configured and dedicated language lab as well as central computing facility with latest software is provided.
- Curriculum is so designed to make students 100% computer literate.
- Add-on programs are conducted on the following areas: Soft Skills, Communication Skills. Communication Skills and Language Lab are introduced in the curriculum for all students.
- Students and faculty members are encouraged to use NPTEL, Virtual lab, Webinar facilities.

Performance enhancement for slow learners / students who are at risk of failure and dropouts

Slow learners/students who are at risk of failure and dropout are identified and based on the performance of the students up to the first half of the semester, students are provided counseling for performance enhancement. Remedial classes are conducted for students who have backlogs.

Exposure of students to other institutions of higher learning / corporates / business houses, etc.

- Students are encouraged and guided to participate in events organized by the college and other institutions.
- State Level Technical Student Meets are arranged in each department in which the students of other institution participate.

- National Level Technical Event VISION is organized every year in which students of other institution participate.
- Students are encouraged to take internship / sponsored projects at IITs, other reputed institutes and organizations.
- Industrial visits and expert talk of professionals from industry are arranged for practical exposure.
- Workshops and seminars are organized on recent developments in technology.
- Workshops on entrepreneur development are organized for the students to enhance the business development qualities in students.
- Institute has made an agreement with Purdue Next University, USA and arranges following online skill development courses:
  - ✓ Hybrid vehicles
  - ✓ Principles of concurrency
  - ✓ Signal processing for embedded system, etc.

Publication of Student Magazines

- Institute magazine is published. It serves as a platform for the exhibition of the creative potentialities of the students.
- Every year Souvenir of institute level technical activity VISION is published.
- In the College some of the Departmental Association magazines are published every academic year {EESA- Impetus (Magunmopus)}.

5.1.9 Does the College provide guidance / coaching classes for Civil Services, Defense Services, NET/SLET and any other competitive examinations? If yes, what is the outcome?

Yes, the following are the details:

The Awareness is created for Civil Services, Defense Services, and other competitive examinations to inculcate the interest of the students. The college faculty Provides guidance for admission tests like GATE, GRE, TOEFL, CAT and other competitive examinations. They train in communication, English, Verbal, Non-Verbal, and Reasoning for Campus Placements and other Competitive Examinations.

Outcome:

15-20% of students are qualified in GATE/GRE/CAT, 80-85% of students get their employment, and 10-15% of the students admit for higher education in India and abroad, 2 – 3 % students qualified for civil and defense services.

5.1.10 Mention the policies of the College for enhancing student participation in sports and extracurricular activities through strategies such as

- **additional academic support, flexibility in examinations**
- **special dietary requirements, sports uniform and materials**
- **any other**

Additional academic support, flexibility in examinations

- To ensures active participation of students in sports and extracurricular activities, attendance exemption (with prior approval).
- Provision for adjustment of lab work and lab examination.
- Provision to conduct extra lectures for topics missed by the students due to the participation in the sports, cultural and other extracurricular events.
- Remedial and make-up classes are conducted.

Special dietary requirements, sports uniform and materials

- The College provides sports uniform and sports kit to the students participating in sports.
- T.A. and D.A is provided to the students at the time of their participation in tournaments.

Any other

- The students are encouraged to participate under the guidance of staff advisors appointed for each sport.
- Annual sport competition is organised every year in second semester and winners are honored by certificate and memento.
- Organised first time in western Maharashtra the sport competition elan**-WEST 2014** for engineering students during 2-5th January 2014.

- Every year Award is given to Best Sportsman of the Year in annual graduation ceremony.

5.1.11 Does the College have an institutionalized mechanism for placement of its students? What services are provided to help students identify job opportunities, prepare themselves for interview, and develop entrepreneurship skills?

The College has Placement Cell with the prime objective of creating career opportunities in reputed corporate. The Cell is devoted to cater to the needs of the organizations in conducting campus interviews for placements. Interactions with organizations are regularly done for placement requirements. Placement cell also conducts career guidance workshops to the final and pre final year B.Tech and M.Tech students to build up the confidence level and come up with new ideas and innovations.

Its main objectives are:

- To make WCE the favorite destination for all multinational companies.
- To build WCE brand value in the corporate world.
- To plan more industry-institution interactions to benefit students and faculty.
- To train the students on soft skills and technical skills.
- To introduce video conferencing / seminars, lectures with industry experts and successful alumni to create awareness for Campus to Corporate Transformation.
- To plan training programs from 1st year to prepare students to meet corporate needs and requirements.

Training and Placement as well as Industry Institute Interaction Cell is set-up in WCE campus with the assistance of our Management to promote and educate young students to take the benefit of the policies of the government by establishing their own ventures. The cell organizes different activities and events to inculcate Entrepreneurial Spirit among the Science and Technology students.

The mission is to promote entrepreneurship-led innovation, thereby creating "Nation of Entrepreneurs" driven by creativity, initiative, risk taking, discipline, and personal development.

Institute has EDC (Entrepreneurship Development Cell) which has been established since last two years. Entrepreneurship awareness program is conducted to the interested students through the MCED (Maharashtra state cell for entrepreneurship development). Students got every detail about entrepreneurship through the experts from necessary field like finance, marketing research and others.

In 2014 institute has tied up with 'I – create India 'NGO from America' to train the trainers for the development of entrepreneur. They had conducted one training program on Training of Trainers from 16th to 20th June 2014. Institute has planned to schedule and execute entrepreneurship development activities at class level for all students so that every year few students become entrepreneurs.
Impact of the efforts: Professionalism has been improved in students.

5.1.12 Give the number of students selected during campus interviews by different employers (list the employers and the number of companies who visited the campus annually for the last four years).

Table 5.4 Details of companies visited and number of students placed

Academic Year	No. of Companies Visited	No. of Students Placed	
		UG	PG
2010 – 11	70	464	28
2011 – 12	61	475	18
2012 – 13	55	374	24
2013 – 14	67	443	37
2014 – 15	73	403	82

Table 5.5 List of companies visited during last five academic years

2014-15	2013-14	2012-13	2011-12	2010-11
Symantec corporation	Shapoorji Pallonji & Co. Ltd.	Shapoorji Pallonji & Co. Ltd.	Shapoorji Pallonji & Co. Ltd.	Shapoorji Pallonji & Co. Ltd.
amazon.in	JOHN DEERE	Pubmatic	Mahindra	Nvdia
Zlemma	NVIDIA	John Deere	John Deere	Tata Motors

2014-15	2013-14	2012-13	2011-12	2010-11
Hindustan Unilever	GS Lab	Bajaj	Cummins	Bajaj
Seagate	Thought works	TataTech	Thermax	Thermax
Thought works	EATON Corporation	Mahindra & Mahindra	Geometric Software	Hindustan Construction Comapny
Google	Hella India Electronics Pvt. Ltd.	Thermax	Tatat ech	Tata technology
Yodlee	Hindustan Unilever	Hella	ABB	Petrofac
Sokrati	L & T (ECC)	Emmerson	HCC	L & T
Siemens PLM	TCS	HCC	TCE	Akerpower gas
Petrofac	HCC	TCE	Bajaj	Kirloskar Group
Josh software	iGATE	3DPLM	3DPLM	John deer
xSiSemiconductor	HSBC	Thoughtworks	Pubmatic	Persistent
TCE	KPIT	Druva	Symentec	Sankalp
Kyazoonga	Petrofac	TCS	Emmerson Design	Emmerson
Thyssenkrupp	Alfalaval	Capgemeni	PSPL	Cummins
Eapon corporation	Mahindra Two Wheelers	HSBC	Aker power solution	Honeywell
PRDC	Nihilent	PSL	cognizant	Thoughtworks
BSNL	Persistent	Alfalaval	accenture	3DPLM
Atlas copco	Thermax	Geometric Software	Mindtree	Geometric
John Deere	Symantec Corpo.	Scopeswitchgear	Kpitcummins	TAL
Emerson Design	Zensar	BPCL	Heela electronics	INFOSYS
Clarice Technology	ADP	ADP	Siemens	COGNIZANT
Mercedez Benz	3DPLM Software	Furecia Design	L & T	IVRCL
MSEB	TOYO	L & T	Paladion	L & T(ECC)
L & T (ECC)	ACC	L & T (ECC)	Infosys	THYSSEN
SKF	Avenue (Supermart)	Nihilent	Aquatech	Tech Mahindra

2014-15	2013-14	2012-13	2011-12	2010-11
Cummins	Cummins	Lafarge	Petrofac	Mindtree
Schaeffler	Tata Housing	Kolate patil	Thought works	KPIT cummins
Hitachi	eInfochips	Sasken	ADP	Patni
Tavisca	Marvel Realtors	Zensar	ATOS India	Tata power
Webonise lab	Dana Technical Centre	Symantec	Indiabulls	Quienstreet
Amdocs	HDFC	Bharatbijlee	iGatePatni	Accenture
Principal	Kirloskar Group	MicoBosch	Sasken	L&T(Infotech)
Tata Technology	Bajaj Auto Ltd.	Dhruva consultancy	Tataelxsi	Opus
Water Resource dept.	Dhruv Consultancy Services	Jintal Steel	Welspan Infrastructure	HSBC
3DPLM	IBM	ITD Cementation	Lafarge	MWH Global
Persistant	Yodlee Software	Akersolutions	Essar	Zycus
Geometric software	Sulzer	Compassates	Tatapower	KEC International
Hella	Tataelxsi	Kirloskar Group	Coca-Cola	Sasken
Bajaj	Sokrati	Quienstreet	L & T (ECC)	Dhruv Consultancy
Shapoorjipallanji	Webonise Lab	Hindustan Unilever	Rishabh	Bosch
Intelliment Technology	Network Components Ltd	Progressive Construction	Pratibha Infrastructure	RISHABH
IGATE	Kay bouvet	Keybouvt	Raychem RPG	Syntel
Dana corporation	L & T Infotech	Forbesmarshall	Kirloskar Group	Tacofeaurecia
HCC	Nitor	SamarathSofttech	Furecia Design	Technimount
Kolte Patil	Triveni Turbine	Atos	HSBC	TCE
ACC	Amdocs	Torrentpower	Godrej	Mahindra group
Tech Mahindra	Emerson	GE	L'OREAL	Billimoria
Accenture	Torrent Power	IBM	HDFC Ifrastructres	Zensar

2014-15	2013-14	2012-13	2011-12	2010-11
Sankalp	ThyssenKrupp	NTT Data Global	Kolatepatil	Pragmasys
HSBC software	JSW infrastructure	Izeal Tech	ITD	Reliance Energy
TCS	Scheafller	DLF	Dhruv consultant	HDFC
Infosys	Tech Mahindra	Petrofac	Unityinfra	UNITYINFRA
TataElxsi	JSW STEEL	Fab.com	BPCL	Afcons
Equilibrium Solution	Continental Automotive		Scope (T&M)	Symentec
Wipro	MSEB (Distri.)		JSW Ispat	AppledMicro
Prescient	Fiserve		JSW Port	Godrej
Neil soft	GarwareWalropes		Amdocs	Bajajelectrical
Capgemeni	MWH Global		Triveni	Kaybouvet
Fiserve	Zlemma		Posco	Vyomlabs
Jade Global	Prsceient			BPCL
Paramatrics	JSW infra (Civil)			PMT Machine
PARI	Quinstreet			Uniken
Dhruva consultancy	Siemens			Prescient
Elnfochip	Neilsoft			JSW
Sandriver Tech.	Scope TNM			Reliance Power

5.1.13 Does the College have a registered Alumni association? If yes, what are its activities and contributions to the development of the College?

Yes, the college has a registered Alumni association. The Alumni association contributes actively to the welfare of the institution. The alumni meeting is organized once / twice a year by all the departments. Illustrious and prominent alumni are invited to deliver special lectures, motivating the students to go for higher education and to find the means for job opportunities. All the departments have the alumni as members of their BOS. Their valid suggestions are taken into consideration in designing and updating the curriculum.

Recently Er. Abhijit Pawar (Sakal Group) donated Rs. 1 crore for infrastructure, staff and research development activities at institute.

5.1.14 Does the College have a student grievance redressal cell? Give details of the nature of grievances reported and how they were redressed.

Yes, the College has a student Grievance Redressal Cell and the grievances are presented to Class teacher, HoD, Deans, and Director.

Grievances reported

- More photocopying machines
- Additional Internet facility
- Extending the working hours of the library
- Better catering service from the canteen and Hostel Mess
- Purified Drinking Water facility

A record of the grievances and redressal measures taken are maintained by the Member Secretary of the Grievance Redressal Cell. Grievances mentioned above are redressed by the cell with due representation to the management.

5.1.15 Does the College have a cell and mechanism to resolve issues of sexual harassment?

Yes, we have a cell to resolve the issues related to sexual harassment chaired by Ladies faculty. There is no room for such issues inside the Campus, but minor problems related to the sexual harassment outside the college are handled by the mentors and staff counselors of the Anti-Sexual Harassment Committee.

Women's grievances redressal committee:

Walchand College of Engineering (WCE) has adopted the guidelines in Compliance with the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 (**"Sexual Harassment Act"**) and guidelines laid down by the Supreme Court of India in its 13 August 1997 judgment on the Writ Petition (Criminal) Vishaka vs. State of Rajasthan for prevention and deterrence of sexual harassment in the workplace.

The objectives of the committee are:

- Prevent discrimination and sexual harassment against women, by promoting gender harmony among students and employees;

- Deal with cases of discrimination and sexual harassment against women, in a time bound manner, aiming at ensuring support to the victimized and termination of the harassment;
- Recommend appropriate disciplinary action against the guilty party to the Director.

The committee seeks to achieve these goals through:

- Dissemination of information: Through production, distribution and circulation of printed materials, posters and handouts.
- Awareness workshops: About sexual harassment for faculty, non-teaching staff and students. The aim is to develop nonthreatening and non-intimidating atmosphere of mutual learning.
- Counseling: Confidential counseling service is an important service as it provides a safe space to speak about the incident and how it has affected the victim because sexual harassment cases are rarely reported and is a sensitive issue.

5.1.16 Is there an anti-ragging committee? How many instances (if any) have been reported during the last four years and what action has been taken on these?

Yes, there is an anti-ragging committee.

Objectives and Activities:

- Creating ragging free atmosphere in and outside of the campus.
- Seniors are expected to maintain self-imposed discipline and restraint. In particular, they must be careful about:
- Creating cordial relations among students for fulfilling organizational mission and objectives.
- Creating awareness among students regarding how the self confidence of the individual influences the national interest.
- The Convener has conducted several interaction meetings with Anti Ragging Committee members and advised them to create a ragging free environment.
- Anti-ragging squads comprising of faculty members, non-teaching staffs and senior students have been formed to make surprise visits to very sensitive location within the campus and outside the campus.

  But no instances of such sort have arisen so far. A few minor complaints have been received and suitable action has been promptly taken.

5.1.17 How does the College elicit the cooperation from all stakeholders to ensure overall development of the students considering the curricular and co - curricular activities, research, community orientation, etc.?

The College elicits co-operation from all stakeholders through the following activities.

- Alumni are invited to motivate the students in curricular and co-curricular activities.
- Motivation and guidance by eminent scientists and researchers regarding the summer projects and fellowships.
- Coaching rendered by experts to the players.
- Leadership training and conduct of competitions by Soft Skill Trainers.
- External Judges are invited for cultural and sport activities.
- Expert lectures for community and social developments.
- Renowned academicians, industry personnel, professionals, scientists, social activists, journalist and well-wishers of the college are invited to be members of Governing Body, Academic Council and other non-statutory bodies.

5.1.18 What special schemes / mechanisms are in place to motivate students for participation in extracurricular activities such as sports, cultural events, etc?

Sports:

- The college has provided necessary infrastructure that helps the students to inculcate good habit of participating in sport activities and also to develop sportsmanship and friendship.
- The college has provided necessary facilities for outdoor games namely Cricket, Volleyball, Football, Basketball, Badminton, Hockey, KhoKho, Kabbaddi, Athletics and Tennis, etc.
- The college has provided with indoor facilities for Badminton, Table Tennis, Caroms, Chess, etc.
- Annual intramural competitions (annual social gathering) in various games and sports are being conducted for the students.
- The college participates in zonal and inter zonal sports organised by Shivaji University, Kolhapur.
- The college sport teams and individuals win at zonal, inter zonal levels and other tournaments.
- For each and every sport staff advisor is deputed by the institute.

Sport State Level Event: Elan WEST 2013-14 (2nd-5th January 2014)

Organised first time state level sport competition for Engineering College students in western Maharashtra and about 46 colleges all over Maharashtra participated in the event (about 1200 participants). In the first attempt, we received overwhelming response from all corners of the state such as Pune, Aurangabad, Nanded, Solapur, Pandharpur, Ratnagiri, Chiplun, Kolhapur etc.

Cultural Activities:

Every year annual social gathering is organised in February. During this event a well known actor, poet, social activist, Hasyasamrat etc. are invited as a chief guest. Student's competitions are organised in various cultural activities such as Dance, Drama, Vocals, Traditional day, Rangoli, etc. Majority of students participates in the various events.

Institute has an Art Circle group. General Interest Meet (GIM) was conducted every year. In GIM the following events were performed.

- Performance of Band (Resonance)
- Dance crew (Mash up)
- Drama
- Games for First year
- Prizes were given to Miss and Mr. Fresher.

Yuvarang 2013 (12th - 13th Oct 2013)

In Yuvarang 2013, different arts and talents were shown and performed by college students.

Art Circle organized following events for the college students:-

- Dance Competition
- Mono act
- Rangoli
- Painting
- Poetry
- Exhibition of photos

Street Play and Mock Dance (26th January 2014**):** - On the occasion of Republic day, art circle was arranged this event to increase patriotic emotions of citizens.

5.1.19 How does the College ensure participation of women in 'intra' and 'inter' institutional sports competitions and cultural activities? Provides details of sports and cultural activities in which such efforts were made?

Frequently our women students participate in intra-mural, inter-collegiate and other competitions.

The details of women participation are given below.

Inter-University / State / National Events Participation:
About 125 students (Boys and Girls) have participated in various sports activities conducted by the Shivaji University (Zonal / Inter zonal) at various places. The sports were Cricket, Volleyball (Girls and Boys) Basketball Chess, Swimming and Diving (Girls + Boys), Kabbaddi, Khokho, Yogasan (Girls), etc.

Miss. Akshata Khadilkar S. Y. (CSE) won the Inter zonal, Inter university 'Yoga' event in 2012 – 13.

Miss. Akshata Khadilkar T. Y. (CSE) won the Inter zonal, Inter university 'Yoga' event in 2013 – 14.

Miss. Tanvee Joshi (F.Y. Mechanical) selected for Inter University (Badminton) tournament in 2014 – 15.

Miss. Tejaswini Nangare (S.Y. Electronics) selected for Inter University (Chess) tournament in 2014 – 15.Badminton Boys and Girls team stood 1st in Zonal Tournament organized by RIT, Islampur in 2014-15.

Team Members (Boys): Abhishek Chavan (B.Tech Electronics) (Captain), Ajinkya Ramdasi (B.Tech Civil), Swaroop Waykole (S.Y. Civil), Vineet Gaikawad (T.Y. Mechanical), Rohan Salokhe (F.Y. M.Tech Environment)

Team Members (Girls): Tanvee Joshi (F.Y. Mechanical), Renuka Bharti (F.Y.Mechanical), Ketki Dadge (B.Tech IT), Bhakti Kulkarni (F.Y. B.Tech IT)

Swaroop Waykole (S.Y. Civil) and Tanvee Joshi (F.Y. Mechanical) won the Gold Medal in Mixed Doubles Badminton at ZEST'15.

Tanvee Joshi (F.Y. Mechanical) represented the team of Shivaji University (Badminton) in 2014 – 15.

Table Tennis Boys and Girls team stood 1st in Zonal Tournament and qualified for the Inter Zonal Tournament in 2014 – 15.
Team Members (Boys): Shreeyash Lohiya (T.Y. Electrical) (Captain), Rahul Naik (B.Tech Civil), Mayank Koshta (T.Y. Electrical), Vipul Daroda (S.Y. Electrical), Vaibhav Indalkar (S.Y. Electrical).

Team Members (Girls): Ketki Dadge (B.Tech IT), Aishwarya Gunde (TY IT), Sanyogita Satpute (S.Y. Mechanical), Aarti Shinde (S.Y.Civil), Vibha Hadule (S.Y. IT).

Tejaswini Nangare (S.Y. Electronics) represented the team of Shivaji University (Chess) in 2014 – 15.

5.2 Student Progression

5.2.1 Provide details of programme-wise success rate of the College for the last four years. How does the College compare itself with the performance of other autonomous Colleges / universities (if available)

Table 5.6 A: Success rate of UG

UG						
Academic Year	**CE**	**CSE**	**ELE**	**ELN**	**IT**	**ME**
2010-11	97.22	88.24	98.61	96.00	95.83	97.14
2011-12	98.68	90.83	97.47	82.05	98.67	98.70
2012-13	90.14	91.67	97.44	78.05	95.95	96.05
2013-14	88.31	97.54	92.41	92.21	97.33	91.67

Table 5.6 B: Success rate of PG

PG					
Academic Year	**Civil Environment**	**Civil Structure**	**Mech-Design**	**Mech-Heat and Power**	**Mech-Production**
2013-14	100	100	100	100	100
2012-13	100	100	100	100	100
2011-12	100	100	100	100	100
2010-11	100	100	100	100	100

PG					
Academic Year	**Electrical-Power system**	**Electrical - control system**	**Electronics**	**CSE**	**CSE (IT)**
2013-14	100	100	100	100	100
2012-13	100	100	100	100	---
2011-12	100	100	100	100	---
2010-11	100	100	100	100	---

5.2.2 Providing the percentage of students progressing to higher education or employment (for the last four batches) highlight the observed trends.

Table 5.7 Number of student's progression for higher education or employment (branch wise)

Computer Science					
Student Progression	**2014-15**	**2013-14**	**2012-13**	**2011-12**	**2010-11**
UG to PG	-	3	1	12	NA
PG to Ph.D.	-	5	4	6	NA
Employed					
Campus Selection	96.36%	89.09%	83.64%	97.27%	88.43%
Other than campus recruitment	-	-	-	-	-

Civil					
Student Progression	**2014-15**	**2013-14**	**2012-13**	**2011-12**	**2010-11**
UG to PG	-	-	22	24	23
PG to Ph.D.	-	-	-	-	1
Employed					
Campus Selection	74.63%	76.36%	91.04%	92.50%	88.36%
Other than campus recruitment	-	-	-	-	-

Electrical					
Student Progression	**2014-15**	**2013-14**	**2012-13**	**2011-12**	**2010-11**
UG to PG		**3**	**3**	**9**	**5**
PG to Ph.D.					
Employed					
Campus Selection	78.57%	65.15%	76.81%	90.91%	78.30%
Other than campus recruitment					

Electronics					
Student Progression	**2014-15**	**2013-14**	**2012-13**	**2011-12**	**2010-11**
UG to PG		6	15	6	4
PG to Ph.D.					
Employed					
Campus Selection	90%	85.07%	86.76%	93.75%	93.20%
Other than campus recruitment					

Information Technology					
Student Progression	**2014-15**	**2013-14**	**2012-13**	**2011-12**	**2010-11**
UG to PG		3	1	12	NA
PG to Ph.D.		5	4	6	NA
Employed					
Campus Selection	90.28%	84,51%	79.10%	96.05%	88.43%

Mechanical					
Student Progression	**2014-15**	**2013-14**	**2012-13**	**2011-12**	**2010-11**
UG to PG					
PG to Ph.D.					
Employed					
Campus Selection	84.72%	94.59%	86.57%	92.68%	89.90%

5.2.3 What is the Programme-wise completion rate / dropout rate within the time span as stipulated by the College / University?

Table 5.8 Programme-wise completion rate

UG						
Academic Year	**CE**	**CSE**	**ELE**	**ELN**	**IT**	**ME**
2013-14	97.65	97.54	93.67	96.39	100	94.94
2012-13	95.89	95.76	96.34	98.68	100	97.44
2011-12	97.56	98.23	94.25	100	100	96.39
2010-11	98.84	99.1	93.9	98.61	97.33	93.67

5.2.4 What is the number and percentage of students who appeared/ qualified in examinations like UGC-CSIR-NET, UGC-NET, SLET, ATE / CAT / GRE / TOFEL / GMAT / Central / State services, Defense, Civil Services, etc.

Table 5.9 List of GATE (upto AIR 8000) /CAT/GRE qualified students 2014-15

GATE 2015			
Sr. No.	**Candidate Name**	**Branch**	**All India Rank**
1	Harshwardhan Ronge	Mechanical	**151**
2	Rohit Sarode	Civil	**267**
3	Aditya Shivshankar	Mechanical	**371**
4	Swanand Patil	Civil	**595**
5	Monika Dhaytadak	Civil	**773**
6	Shridhar Rajput	Civil	**857**
7	Suraj Patil	Civil	**1135**
8	Suraj Inamdar	Mechanical	**1425**
9	Rutvij Yadav	Civil	**1473**
10	Rohit Bhosale	Electrical	**1512**

GATE 2015			
11	Shivkumar Lashkare	Mechanical	1681
12	Amol Gavhane	Mechanical	1772
13	Kakade Kshitija C.	Civil	2139
14	Snehal Chandole	CSE	2324
15	Deshpande Priti D.	Civil	2330
16	Akhil Sudhakaran	Civil	2452
17	Bidkar Omkar Shirish	Civil	2765
18	Vinayak Kadam	IT	3215
19	Siddharam Gurav	Electronics	3240
20	Shweta Magdum	Electronics	3431
21	Shashank Kulkarni	Electrical	3868
22	Shubham Nandagavali	Electronics	4583
23	Nachiketa Deshmukh	Electrical	4595
24	Swapnil Vhatkar	Electronics	4752
25	Pratik Deshmukh	Electrical	5064
26	Nilesh Upadhye	Electronics	5543
27	Prachi Jadhavar	CSE	5960
28	Viaibhav Gaikwad	Electrical	6580
29	Nitin Shete	Electrical	7850
30	Sudhindra Deshpande	CSE	7910
31	Shweta Malavade	CSE	

GATE 2015			
CAT 2014-15			
Sr. No.	**Candidate Name**	**Branch**	Percentile Score
1	Rishi Rathi	Mechanical	95.14
2	Swapnil Wayal	Mechanical	95
3	Bhavya Shah	Electrical	92
GRE 2014-15			
Sr. No.	**Candidate Name**	**Branch**	Score out of 340
1	Vijaysinh Jadhav	Civil	331
2	Aditya Shivshankar	Mechanical	328
3	Suraj Shah	CSE	321
4	Saurabh Gandhi	IT	315

MPSC 2014 – 2015: Er. Abhaysingh Mohite {B.E. (CSE) - 2010 batch} Rank one in MPSC and recommended for Deputy Collector.

UPSC 2012 – 13: Er. Swapnil Patil {B.E. (Mech) – 2011 batch) recommended for IRS.

Table 5.10 Number of students qualified in different examinations (AY wise)

	Name of the examination	No. of students Appeared for examination						No. of students Qualified for examination					
		CE	**CSE**	**ELE**	**ELEC**	**IT**	**ME**	**CE**	**CSE**	**ELE**	**ELN**	**IT**	**ME**
2014-15	**GRE**						1	3	2			1	1
	GMAT/TOEFL												
	GATE							20	6	6	15	4	20
	CAT									1			2
	Others										5		

2013-14	Name of the examination	No. of students Appeared for examination						No. of students Qualified for examination					
		CE	CSE	ELE	ELN	IT	ME	CE	CSE	ELE	ELN	IT	ME
	GRE												
	GMAT/TOEFL										5		
	GATE			40				27		7	15	8	
	CAT			2						2	6		
	Others										2		

2012-13	Name of the examination	No. of students Appeared for examination						No. of students Qualified for examination					
		CE	CSE	ELE	ELN	IT	ME	CE	CSE	ELE	ELN	IT	ME
	GRE												
	GMAT/TOEFL												
	GATE			35				30	24	10			
	CAT												
	Others												

2011-12	Name of the examination	No. of students Appeared for examination						No. of students Qualified for examination					
		CE	CSE	ELE	ELN	IT	ME	CE	CSE	ELE	ELN	IT	ME
	GRE												
	GMAT/TOEFL												
	GATE			35				12	19	17	9	13	13
	CAT												
	Others												

	Name of the examination	No. of students Appeared for examination						No. of students Qualified for examination					
		CE	CSE	ELE	ELN	IT	ME	CE	CSE	ELE	ELN	IT	ME
2010-11	GRE												
	GMAT/TOEFL												
	GATE			30				6	11	12	18	10	25
	CAT									4	5	5	6
	Others												

5.2.5 Provide details regarding the number of Ph.D. / D.Sc. / D.Litt. theses submitted, accepted, resubmitted and rejected in the last four years.

Table 5.11 Details of Ph.D. theses submitted, accepted, resubmitted and rejected in the last four academic years

Academic Year	PhD Thesis Submitted	PhD Thesis Accepted	PhD Thesis Resubmitted	PhD Thesis Rejected
2014-15	4	1	---	---
2013-14	7	3	---	---
2012-13	4	2	---	---
2011-12	2	2	---	---
2010-11	3		---	---

5.3 Student Participation and Activities

5.3.1 List the range of sports and games, cultural and extracurricular activities available to students. Provide details of participation and program calendar.

Facilities for outdoor and indoor games are available to students. One qualified staff is dedicated to the Gymkhana activities. Apart from this individual faculty also act as advisors for various sport activities. College has following sports facilities for the students:

Outdoor Games:

- Well maintained cricket ground
- Hockey Ground
- Foot-Ball Ground
- Basket Ball Ground
- Khokho/ Kabbaddi Ground
- Lawn Tennis Court
- Volleyball

Indoor Games:

- Badminton Court
- Table Tennis Hall
- Boxing
- Carom / Chess
- Body Gym

Students participates every year at Zonal/Inter-zonal level in the following events

- Cricket,
- Hockey,
- Volley ball,
- Table Tennis,
- Badminton,
- Chess,
- Basketball.

For Academic year 2013 -14 all club meeting was held on 19th July 2013 to finalize the event during first semester and 7th January 2014 to finalize the event in second semester of 2013-14.

Table 5.12 Activity plan for curricular, co-curricular and extracurricular activities

Club/Association	Activity	Event Dates
CESA (Civil Engineering Students Association)	Aakar Annual Technical Event, Weekly Club Service - MONDAY	AAKAR – 21st and 22nd Sep. 2013
MESA (Mechanical Engineering Students Association)	Vertex Annual Technical event Weekly Club Service - MONDAY	VERTEX – 21st and 22nd Sep. 2013
EESA (Electrical Engineering Students Association)	Technocrats Annual Technical Event Weekly Club Service - MONDAY	TECHNOCRAT – 19th – 20th Oct 2013
ELESA (Electronics Engineering Students Association)	Electrovert Annual Technical Event Weekly Club Service - THURSDAY	ELECTROVERT - 21st and 22nd Sep. 2013
ACSES (Computer Engineering and Science Students Asso.)	TECHUMEN Annual Technical Event Weekly Club Service - MONDAY	TECHUMEN - 19th – 20th Oct 2013
SAIT (Information Technology Students Association)	Weekly Club Service - THURSDAY	19th – 20th Oct 2013
PACE (Personality Advancement Circle of Engineers)	Brainveeta - Management Event Weekly club service – TUESDAY, WEDNESDAY	Brainveeta - 31st Aug. and 1st Sep. 2013 PRUDENCE – 2nd, 8 and 9th March 14
SOFTA(Student organization for technical activities)	Impulse Annual Event Weekly club service – FRIDAY/WEDNESDAY	IMPULSE – 4th and 9th August 2013
WLUG (Walchandiest Linux User Group)	Weekly club service – WEDNESDAY	UBANTU Workshop – 3rd August 2013
Rotaract	Rainbow Annual Event Weekly club service – Wednesday	Rainbow – 14th and 15th Sep. 13
ART Circle	Yuvarang Annual Event Cultural programs	YUVARANG – 12 and 13th Oct. 2013
NSS	Social Services, Mahapurush Jayanti etc.	As and when required
VISION Group	VISION Technical Event	VISION 2014 19th – 20th Feb. 14
ASG Organizing committee	Annual Social Gathering	ASG 2014 – 21st -23rd Feb. 14

Representation of our students in Inter University, State and National Tournaments:
The details of participation of the students in the zonal sports and their achievements in various sports activities for last four years are given in the following table.

Table 5.13 Representation and achievement of our students in Inter University, State and National Tournaments

Year	Sports Activity - Sub-activity	Level	Achievement
2013-14	Swimming and Diving (Mr. Potabatti P.S.)	Inter University	Won Inter University Championship.
	Chess (M. Kininge N.S.)	Inter State University	Won Inter State University Championship.
	Table Tennis (Mr. Lohiya S.M)	West Zone Inter University	Won West Zone Inter University table tennis tournament.
	Cricket	Zonal	Won Zonal Championship.
	Yoga (Miss. Akshta Khadilakar)	Inter Zonal	Won Inter Zonal Competition
2012-13	Swimming and Diving (Mr. Potabatti P.S.)	Inter University	Won Inter University Championship
	Boxing	Zonal	Runner Up
	Chess ((Mr. Vellai S.B.)	Inter State University	Won Inter State University Championship.
	Hockey	Zest Event	Runner Up.
	Cricket	Zonal	Runner Up
	Yoga (Miss. Akshta Khadilakar)	Inter Zonal	Won Inter Zonal Competition
2011-12	Swimming : Springboard 1 M Highboard 3 M Freestyle 50 M Backstroke	Zonal	Won Zonal Championship Qualified for Inter-zonal
2010-11	Swimming Diving	Inter-zonal	Qualified for National level organized at Kolkatta
	Badminton	Zonal	Teams of both Boys and girls qualified for inter-zonal
	Cricket, Chess, Volley Ball	Boys team won the zonal and qualified for inter-zonal	Cricket, Chess, Volley Ball
	Chess (Velhal Shridhar – T. Y. B. Tech. Electrical)	Qualified for National level tournament	Chess (Velhal Shridhar – T. Y. B. Tech. Electrical)
	Lawn Tennis (Pranav Chavan F. Y. B. Tech)	Zonal	Qualified for Inter-zonal

5.3.2 Provide details of the previous four years regarding the achievements of students in co-curricular, extracurricular activities and cultural activities at different levels: University / State / Zonal / National / International, etc.

Table 5.14 Representation and achievement of students in co-curricular, extracurricular activities and cultural activities at different levels: Electronics Department 2014-15

Sr. No	Name of Student	Class	Level	Event	Prize win
1	Omkar Watave	T.Y.	National	Product Design Innovations –John Deer, Pune	First Prize
2	Kunal Jagdale	T.Y.	National	Product Design Innovations	First Prize
3	Suyash Patil	T.Y.	National	Product Design Innovations	First Prize
4	Sumedh Nitnaware	T.Y.	National	Product Design Innovations	First Prize
5	Ms. Garima Karwa	T.Y.	National	Product Design Innovations	First Prize
6	Omkar Watve	T.Y.	National	Product Design Innovations	First Prize
7	Nilesh Updhaye	T.Y.	National	Product Design Innovations	First Prize
8	Yogesh Bhosale	T.Y.	National	Product Design Innovations	First Prize
9	Dhananjay Dharne	T.Y.	National	Product Design Innovations	First Prize
10	Prashant Rupnur	T.Y.	National	Product Design Innovations	First Prize
11	Sourabh Patil	T.Y.	National	Product Design Innovations	First Prize
12	Kalpesh Nirmalkar	T.Y.	National	Product Design Innovations	First Prize
13	Prashant Swami	T.Y.	National	Product Design Innovations	First Prize

2013-14

Sr. No	Name of Student	Class	Level	Event	Prize win
1	Vineeta Narkhede	T.Y.	National	Product Design Innovations – Texas Instruments, Banglore	Participation
2	Amruta Chaugule	T.Y.	National	Product Design Innovations	Participation
3	Khilendra Paradhi	T.Y.	National	Product Design Innovations	Participation
4	Vishal Shelgaonkar	T.Y.	National	Product Design Innovations	Participation
5	Nilesh Kulkarni	T.Y.	National	Product Design Innovations	Participation
6	Shubhankar Zingre	T.Y.	National	Product Design Innovations	Participation
7	Preyash Deshpande	T.Y.	National	Product Design Innovations	Participation
8	Sanjana Chaudhari	T.Y.	National	Product Design Innovations	Participation
9	Kalpesh Nirmalkar	T.Y.	National	Product Design Innovations	Participation
10	Shraddha Bedage	T.Y.	National	Product Design Innovations	Participation
11	Pratik Deshmukh	T.Y.	National	Product Design Innovations	Participation
12	Vyankatesh Naramwar	T.Y.	National	Product Design Innovations	Participation

2012-13

Sr. No.	Name of Student	Class	Level	Event	Prize win
1	Harshal Kulkarni	T.Y.	National	Product Design Innovations –John Deer, Pune	First Prize
2	Mayuresh Gadgil	T.Y.	National	Product Design Innovations	First Prize
3	Amit More	T.Y.	National	Product Design Innovations	First Prize
4	Sachin Kamble	T.Y.	National	Product Design Innovations	First Prize
5	Subhag Kamble	T.Y.	National	Product Design Innovations	First Prize
6	Praveen Dhongade	T.Y.	National	Product Design Innovations	Runner up
7	Harshal Moraskar	T.Y.	National	Product Design Innovations	Runner up

8	Sushant Patil	T.Y.	National	Product Design Innovations	Runner up
9	Akshata Patil	T.Y.	National	Product Design Innovations	Runner up
10	Archana Vanmore	T.Y.	National	Product Design Innovations	Runner up
11	Praveen Dhongade	T.Y.	National	Product Design Innovations	Participation
12	Harshal Moraskar	T.Y.	National	Product Design Innovations	Participation
13	Patil Ghubade Aditi	T.Y.	National	Product Design Innovations	Participation

Table 5.15 Representation and achievement of students in co-curricular, extracurricular activities and cultural activities at different levels: CSE Department

Year 2014-15

Sr. No.	Name of Student	Event Name	Organizer	Contribution / award
1	Akshay Habbu and Anvit Nigavekar	Technophilia	WCE, Sangli	Winner
2	Vikas Kamble	Codestorm	WCE Sangli	Novice Winner
3	Pratima Gokhale	Codestorm	WCE Sangli	Expert Winner
4	Roshan Desai and Shruti Shah	Brainblusters	WCE Sangli	Winner
5	Sushant Mane	Webhatcher	WCE, Sangli	Winner

Year 2013-14

Sr. No.	Name of Student	Event Name	Organizer	Contribution / award
1	Rutuja Kesharwani , Sonali Patil	Techblaze	Techumen,WCE, Sangli	Novice Winner
2	Madan Shinde, Nikhil Ghadage	Techblaze	Techumen,WCE, Sangli	Expert Winner

Sr. No.	Name of Student	Event Name	Organizer	Contribution / award
3	Aniket Ghanwat	D'coder	Techumen,WCE, Sangli	Novice FE winner
4	Gaurav Kalele	D'coder	Techumen,WCE, Sangli	Novice SE winner
5	Ashwin Nair	D'coder	Techumen,WCE, Sangli	Expert Winner
6	Rajat Chandak	OOPs	Techumen,WCE, Sangli	Winner
7	Suraj Bobade, Piyush Choudhari	Sociotech	Techumen,WCE, Sangli	Novice winner
8	Nihar Kininge, Anvit Nigavekar	Sociotech	Techumen,WCE, Sangli	Expert Winner
9	Rajat Chandak	Campus Connect	Techumen,WCE, Sangli	Best Performer
10	Pravinchavan, A. Benni, Keshav Kumbhar	Lan Gaming	Techumen,WCE, Sangli	Winner
11	Shubham Patil	Network Hunt	Techumen,WCE, Sangli	Winner
12	Shridhar Kulkarni	INFOSYS coding competition	Infosys	Winner
13	Chandan Bhattad	C-WAR	NDMVP, Nasik	Winner
14	Chandan Bhattad	CODE IT	Sandeep Foundation Nasik	Winner
15	Parag Guruji	Code Mania	Amdocs,Pune	All India Rank 10
16	Kapil Vyas, Swati Sharma	Vision 2k14	WCE, Sangli	Winner
17	Tejas Bamnote	Paper Presentation	J.J. Magdum College of Engg	Winner
18	Tejas Bamnote	Spider Instinct	WCE, Sangli	Winner

Year 2012-13

Sr. No.	Name of Student	Event Name	Organizer	Contribution / award
1	Shreedhar Deshmukh and Omkar Kamatkar	JAVASTORM	ACSES WCE Sangli	Winner
2	Sagar Mahajan	CURA (Expert)	WCE Sangli	Winner
3	Akshay Raut	FOREX	WCE Sangli	Runner-up
4	Ninad Bulbule	Ingenious 2k12	ADCIT, Ashta	Winner
5	Tejas Bamnote	CarteBlanche	VISION 2k12,WCE Sangli	Winner
6	Ashwin Nair	ReloadedLanka and CBrain	SGGSIT, Nanded	Winner
7	Abhilash Khedkar	ITA-STUDIIS	VRTEX 2k11,WCE Sangli	Runner-up

Table 5.16 Representation and achievement of students in co-curricular, extracurricular activities and cultural activities at different levels: Mechanical Department

2013-14

Design Contest			
Sr. No	**Name of student**	**Event organiser**	**Name of Event**
1	Shivkumar Lashkare	vertex	angry birdz
2	Saurabh Samkuwar	Efficycle	SAEINDIA
3	Minal Sangle	Vertex	Cadventure
4	Somnath Devarde	MindSpark	Mechtrix
5	Nikhil Bhalerao	Vision	Ship Building
6	Rohit Khadilkar	Technocrat	Technoesis
7	Sourabh Wagale	Softa	Impulse
8	Abhijeet Bagal	Softa	Impulse
9	Amol Gavhane	vertex	Cadventure
10	Shrinivas Kadam	MindSpark	Mechtrix
11	Tabasum Shaikh	Vision	Tech(mech) Novice
12	Amol Gavhane	Vision	Robotech
13	Juned Patel	ABU	Robocon

Personality Development			
Sr. No	**Name of student**	**Event organiser**	**Name of Event**
1	Vishakha Harlapur	Softa	Victor League
2	Kaldhone Priyanka	WCE, Sangli	workshop
3	Kiran Jagtap	Vertex	organiser
4	Vishakha Harlapur	Softa	SENOC
5	Aparna Bhandare	Vertex	organiser
6	Yogesh Rachetti	Vertex	organiser
7	Deshpnade Sneha	Vertex	organiser
8	Smita Patil	Vertex	organiser
9	Somnath Devarde	Vertex	organiser
10	Divyani Sapate	Vertex	organiser
11	Vishkha Kamble	Vertex	organiser
12	Tejasvi Patil	Vertex	organiser
13	Sneha Garad	Vertex	organiser
14	Sancheti Nimsakhre	Vertex	organiser

2012-13

Design Contest			
Sr No	**Name of Participant**	**Events organiser**	**Name of event**
1	Ghokale Nivedita	Vertex	Mechart
2	Patil Ashwini	Softa	softa
3	Jagdale Varsha	Vertex	Autospark
4	Patil Chetan J	SAEINDIA	Baja
5	Patil Smita	Vertex	Cadventure
6	Kaldhole Pryanka	Electovert	Bazinga
7	Aphale Kirti	Vertex	Cadventure
8	Milmile Sandip	Vertex	Cadventure
9	Chavan Mahendra	Mindspark	Mechtrix
10	Deshpande Shardul S	Vertex	Autospark
11	Chavan Maneka	Vertex	Cadventure
12	Patil Ashish B	SAEINDIA	Efficycle
13	Gaytonde Arya	Electovert	Bazinga
14	Matkar Nitin	Vertex	Angrybirds

Design Contest			
15	Patil Sampada	Vertex	Autospark
16	Garad Sneha	Vertex	Caraftech
17	Garad Sneha	Vertex	Mechart
18	Sawade Vijay K	Indo German	Creo Parametric
19	Hazara Shriya S	SAEINDIA	Baja
20	Patil Sridhar L	Vertex	Autospark
21	Kamble Akash	Vertex	Autospark
22	Ambi Ravindra C	SAEINDIA	Baja
23	Dadmal Shailesh	Vertex	Autospark
24	Lanje Ssaurbh	SAEINDIA	Supra
25	Kalushe Vaibhav	Vertex	Angrybirds
26	Srimali Amruta	Vertex	Angrybirds
27	Kalushe Vaibhav	Indogerman	Creo Parametric
28	Dadmal Shailesh	Indogerman	Ansya
29	kale Swpnil	SAEINDIA	Supra
30	Garad Sneha	Electovert	Bazinga
31	Patil Sampada	Tecnocraft	Junkart
32	Patil Sampada	Electovert	Bazinga
33	kale Swpnil	SAEINDIA	Efficycle
34	Patil Ashish B	SAEINDIA	Efficycle
35	Aphale Kirti	Vertex	Craftech
36	Natkar Himmat	Vertex	Craftech
37	Chvan maneka	Vertex	Craftech
38	Patil smita	Vertex	Craftech
39	Gaytonde Arya	Tecnocraft	Junkart
40	Bagal Abhijeet	Vertex	Autospark
41	Salunkhe Madhuri	Tecnocraft	Junkart
42	Haralapur Vishkaha	Tecnocraft	Junkart
43	Kaldhole Pryanka	Robotics	Robotics
44	Ladekar Madan M	SAEINDIA	Baja

Personality Development			
Sr No	**Name of Participant**	**Events organiser**	**Name of event**
1	Kale Swapnil	SAEINDIA	Efficycle
2	Gaytonde Arya	Tecnocraft	Junkart
3	Patil Aswini	Softa	Incursus
4	Gaytonde Arya	Prudence	Pradnya
5	Bagal Abhijeet	Softa	softa
6	Salunkhe Madhuri	Prudence	Pradnya
7	Salunkhe Madhuri	Vertex	Vertex
8	Bagal Abhijeet	Novels	Novels
9	Bagal Abhijeet	Prudence	Pradnya
10	Khot Dipashri M	Iste Workshop	Iste Workshop
11	Ladekar Madan M	NSS	NSS
12	Haralapur Vishkaha	Prudence	Vadsangram
13	Ladekar Madan M	NSS	NSS
14	Deshpande Sneha	Vertex	Vertex
15	Deshpande Sneha	Prudence	Atulya Bharat
16	Gavane Amol S	Vertex	Vertex
17	Kaldhone Pryanka	Aakar	Mentos
18	Patil Ashwini	Prudence	Atulya Bharat
19	Ghokale Nivedita	Prudence	Atulya Bharat
20	Sapate Divyani	Vertex	Vertex
21	Sanake Sanjana S	Vertex	Vertex
22	Matkar Nitin	Novels	Novels
23	Garad Sneha	Novels	Novels
24	Shivshankar Aditya	IITB Techfest	Verbal mention
25	Dadmal Shailesh	Mahaganko	Mahgenco
26	Haralapur Vishkaha	Novels	Novels
27	Kaldhone Pryanka	Novels	Novels
28	Haralapur Vishkaha	Novels	Novels
29	Bulbule Pradip	Vertex	Vertex
30	Sangle Minal P	Vertex	Vertex
31	Ghorpade kishori	Novels	Novels
32	Nimskhare Sanchiti	Prudence	Prudence

Personality Development			
33	Wakhale Sudhir	Novels	Novels
34	Wagle Saurbh	Softa	softa
35	Patil Sampada	Novels	Novels
36	Wagle Saurbh	Novels	Novels
37	Bhasme Supriya	Prudence	Prudence
38	Bhasme Supriya	Darbhar	Elocution
39	Kale Swapnil	SAEINDIA	Supra
40	Garad Sneha	Electovert	Bazinga
41	Patil Sampada	Tecnocraft	Junkart
42	Patil Sampada	Electovert	Bazinga
43	Ladekar Madan M	SAEINDIA	Baja
44	Kaldhone Pryanka	Robotics	Robotics
45	Aphale Kirti	Vertex	Craftech
46	Natkar Himmat	Vertex	Craftech
47	Chavan Maneka	Vertex	Craftech
48	Patil smita	Vertex	Craftech
49	Haralapur Vishkaha	Tecnocraft	Junkart
50	Salunkhe Madhuri	Tecnocraft	Junkart
51	Bagal Abhijeet	Vertex	Autospark
52	Deshpande kirti	Mindspark	Contraption
53	Chavan Maneka	Vertex	Workoholics
54	Aphale Kirti	Vertex	Workoholics
55	Deshapane Sneha	Mindspark	Contraption
56	Ghokale Nivedita	Mindspark	Contraption
57	Gore Asawari	Mindspark	Contraption
58	Jagtap Kiran	Vertex	Organiser
59	Bagbale Varsha	Prudence	Dnyaanarth

Engineering Application			
Sr No	**Name of Participant**	**Events organiser**	**Name of event**
1	Bhasme Supriya	Vision	Awakens
2	Khot Dipashri M	Vision	Awakens
3	Kalushe Vaibhav	Vertex	Tecnostudio

4	Barve Herambh	Vision	Awakens
5	Latane Shruti	Vision	Awakens
6	Patil Smita	Vision	Awakens

Quiz Competition			
Sr No	**Name of Participant**	**Events organiser**	**Name of event**
1	Rachetti Yogesh	Tecnocraft	Quizorena
2	Gavane Amol S	Tecnocraft	Quizorena
3	Patil Tejasvi	Aakar	Mentos
4	Sawant Saurbh	Horizon	Quix
5	Patil Sampada	Tecnocraft	Quizorena
6	Patil Sampada	Aakar	Mentos
7	Gaytonde Arya	Akar	Mentos
8	Wagle Saurbh	Vertex	Intellect
9	Salunkhe Madhuri	Vertex	Intellect
10	Ghorpade kishori	Vertex	Intellect
11	Savade Vijay	Akar	Mentos
12	Naringe Ajinkya	Akar	Mentos
13	Milmile Sandip	Akar	Mentos
14	Ambi Ravindra C	Eroccks	Techgyru
15	Jagtap Kiran	Tecnocraft	Quizorena

Extra Curricular Activity			
Sr No	**Name of student**	**Event Organiser**	**Name of event**
1	Bhasme Supriya	Spandan	Carrom
2	Gaytonde Arya	WCE, Sangli	Voice of college
3	Haralapur Vishakha	WCE, Sangli	Voice of college
4	Ghokhale Nividita	Spandan	Carrom
5	Shivshankar Aditya	WCE, Sangli	Best speaker
6	Wagle Saurbha	Softa	Incurses
7	Bhasme Supriya	Vision	Era
8	Sanake Sanjkay	Art Circile	Painting
9	Kamble Vishakha	WCE, Sangli	Voice of college

10	Patil Tejasvi	WCE, Sangli	Voice of college
11	patil Sampada	WCE, Sangli	Voice of college
12	Garad Sneha	WCE, Sangli	Voice of college
13	Patil Smita	SQAY	Lobo Fight
14	Shaikh Tabasum	WCE, Sangli	Scholarship

5.3.3 How often does the College collect feedback from students for improving the support services? How is the feedback used?

The institution collects feedback from all the students of the UG and the PG programs once in a semester through a carefully designed questionnaire on various aspects of the academic programs, teaching and learning resources, teaching and evaluation techniques, evaluation of teachers' performance, the rapport between the staff and the students, curricular aspects, physical facilities etc. The consolidated feedback of the students indicates the good practices of the college.
Students council meetings are conducted twice in a semester to discuss the difficulties and suggestions of students related to academics, infrastructure, hostel, mess, co-curricular and extracurricular activities.

The requirements by the students such as Vehicle parking, Rest room, Photocopying section, Internet facilities, RO Plant for Drinking water have been fulfilled by the management over the years.

5.3.4 Does the College have a mechanism to seek and use data and feedback from its graduates and employers, to improve the growth and development of the College?

Yes. **Graduate student exit survey** is designed for graduating engineering students for the purpose of obtaining feedback from students with the objective of improving the courses and the programme. Feedback from the graduates is obtained once in a year in graduation day ceremony and is used for the development of the college.

Informal feedback is obtained from the employers during Campus Drives. The institute also gets the feedback during industry visits from the employer.

Innovative techniques of teaching, infrastructural facilities such as additional laboratories, central computer facility, Wi-Fi at college and hostel premises, extension of

library working hours, renovation of gymkhana, student's activity centre, are the provisions done based on the feedback. The needs and expectations of the students are identified and fulfilled.

The feedback has helped us to organize few inter-collegiate competitions (sport activity elan WEST).

5.3.5 How does the College involve and encourage students to publish materials like catalogues, wall magazines, College magazine, and other material? List the major publications/ materials brought out by the students during the previous academic session.

The institution has various publications such as VISION Souvenir, WCE annual Magazine, etc. which are edited by the teachers and students that create a platform for the students' creative thinking. It focuses on the socio cultural and academic issues. It encourages the students to sharpen their imagination.

5.3.6 Does the College have a Student Council or any similar body? Give details on its constitution, major activities and funding.

Yes. College has a student's council formed as per the guidelines given by Shivaji University Kolhapur (University act 1994).

Student's representation in student's council: Total 12 Members as follows:

Topper from each class = 6 Members (First Year to Final Year B. Tech. class = 4 Members, F.Y. and S.Y. M. Tech. Topper = 2 Members).

Representation from NSS, NCC, Sports and Cultural = 4 Members
Girls students nominated by Director = 2 Members

Table 5.17 Student Council for Academic Year 2014- 15

Sr. No.	Name	Designation
1	Prof. Dr. G.V. Parishwad	Chairman (Director)
2	Prof. Dr. P.J. Kulkarni	Member (Dy. Director)
3	Prof. Dr. S.P. Chavan	Member (i/c. Registrar)
4	Prof. Dr. U.A. Dabade	Member (Dean student welfare)
5	Shri. S.N. Kore	Member (Dean Academics)
6	Dr. M.H. Pendse	Member (NCC staff advisor)
7	Dr. K.H. Inamdar	Member (Chief rector)
8	Mrs. P.N. Savagave	Member (Art Circle staff advisor)
9	Mr. A.B. Admuthe	Member (NSS staff advisor)
10	Mr. R.D. Padhye	Member (Gymkhana Incharge)
11	Mr. Patil Suyash Adgonda (NSS)	UR, Final Year B.Tech. (Electronics)
12	Mr. Bane Unmesh Nandkumar	Member, F.Y. B.Tech. (Civil)
13	Mr. Kapase Akash Hindeshwar	Member, S.Y. B. Tech. (Mechanical)
14	/Miss. Porwal Shriya Pravin	Member, T.Y. B. Tech. (Electronics)
15	Mr. Jagdale Kunal Suresh	Member, Final Year B. Tech. (Electronics)
16	/Miss. Pailwan Nupoor Prakash	Member, S.Y. M. Tech. (Ele–Power System)
17	Mr. Birje Ruturaj Anil (Cultural)	Member, Final Year B.Tech. (Electrical)
18	Mr. Kamble Mandar C. (Sports)	Member, Final Year B.Tech. (CSE)
19	Mr. Mane Swapnil Milind (NCC)	Member, Final Year B.Tech. (Civil)
20	/Miss. Purohit Prerana Ravindra – LR 1	Member, Final Year B.Tech. (CSE)
21	/Miss. Patil Ashwini Prakash – LR 2	Member, Final Year B.Tech. (Mechanical)

Last Six Years Students Office Bearers

Academic Year	Students Council University Representative	Annual Social Gathering General Secretary	VISION (National Level Technical Symposium) Convener
2014 – 15	Mr. Suyash Patil	Mr. Amit Lomte	Mr. Akshay Nale
2013 – 14	Mr. Yugandhar Savgave	Mr. Pranav Bagadi Mr. Pankaj Koti	Mr. Harshwardhan Kamble
2012 – 13	Miss. Swaroopa Patil	Mr. Pavan Tikate Mr. Kirtikumar Patil	Mr. Sagar Jadhav
2011 – 12	Mr. Sohan Shinde	Mr. Prashant Lohare	Mr. Kaushal Dhabhade
2010 – 11	Mr. Ajay Desai	Mr. Prithviraj Patil	Mr. Rahul Shende
2009 – 10	Mr. Bhushan Sirdesai	Mr. Ruturaj Jadhav	Mr. Virendra Nathu

The aim of forming student council is:

- To improve academics, co-curricular, cultural and extracurricular activities.
- To motivate the students for team work.
- To acquire leadership qualities.

- To learn event managements.
- To interaction with college management to resolve the difficulties of the student's in day to day activities.

The activities of student council includes:

- To organize national or university level technical symposium like VISION in each year to motivate students to participate in technical and nontechnical events.
- To organize the college level event annual social gathering each year which include cultural and sport events.
- Celebration of Nationally important days like Independence day, Republic day etc., to develop the feeling and sense of nationalism
- To celebrate Teacher day & Engineers Day.
- To organize blood donation camp, tree plantation, voter's awareness programs etc.
- To organize above events, funds are given by institute and some sponsors.

Cultural event includes:

- Ganesh Festival
- Dhandiya
- Shiv Jayanti
- Eassy competition
- Quiz competition
- Funny games
- Fishponds
- Dance
- Drama
- Fashion show
- Vocals
- Traditional day

5.3.7 Give details of various academic and administrative bodies that have student representatives on them. Provide details of their activities.

The student's representatives serve in almost all academic and administrative bodies of the college such as departmental board of studies, departmental associations and various clubs, student's council, Anti Ragging Cell, Anti sexual harassment cell, Placement and Career Guidance Cell, NSS, Gymkhana Committee, Library committee etc..

Role of Student Representatives

- Disseminate the information from the college administration to all students.
- Organize technical, non-technical and social events.
- Conduct Quiz Competitions on current affairs.
- Organize programs in NSS.
- Arrange study tour and Environmental Studies field trip.
- To maintain conducive and anti-ragging ambience in hostel and college premises.

Any additional information regarding Student Support and Progression, which the institution would like to include.

List of associations and clubs at Walchand College of Engineering, Sangli.

- **C**ESA (Civil Engineering Students Association) :
- MESA (Mechanical Engineering Students Association):
- EESA (Electrical Engineering Students Association) :
- ELESA (Electronics Engineering Students Association):
- ACSES (Computer Science and Engineering Students Association):
- SAIT (Information Technology Students Association):
- PACE (Personality Advancement Circle of Engineers):
- Softa (Student organization for technical activities):
- WLUG (Walchandiest Linux User Group):
- Rotaract
- Art Circle
- NSS
- VISION
- Competitive Exam Study Group

CRITERION VI: GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 Institutional Vision and Leadership

6.1.1 Vision of the College:

To produce capable graduate engineers with an aptitude for research and leadership

Mission of the College

To impart quality education through demanding academic programs
To enhance career opportunities for students through exposure to industry.
To inculcate sensitivity toward society and a respect for the environment.

6.1.2 Does the mission statement define the College's distinctive? Characteristics in terms of addressing the needs of the society, The students it seeks to serve, College's traditions and value Orientations, vision for the future, etc.?

The college has been initially founded by Late Shri. Dhondumama Sathe, a great freedom fighter, in 1947. That time the college's name was New Engineering College and it was run by MTE Society Pune. Lateron from the year 1955, the college was handed over to Walchand Hirachand Memorial Trust Mumbai and the name is changed to Walchand College of Engineering. This is one of the oldest engineering colleges in Maharashtra. This is a state government aided college. The college received autonomous status in the year 2007-08.

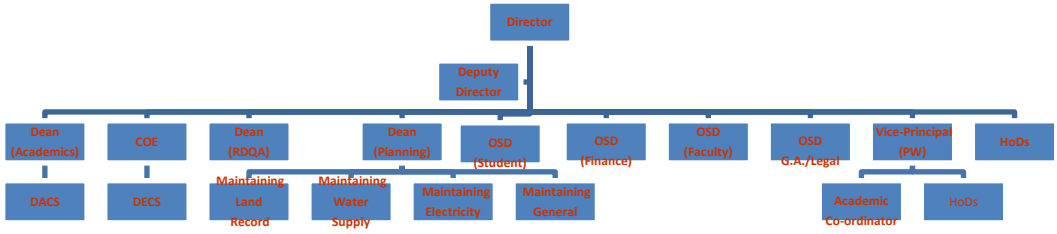
The current Chairman of the Administrative Council of the college is Shri. Ajit Gulabchand, who is also the Chairman and Managing Director of Hindustan Construction Company, Mumbai.He and his team members in the administrative council are very keen to see that the various programs have been designed and implemented in consultation with various stake holders and so also with the expert guidance of faculty from IIT Mumbai and a few faculty from USA. All the programmes in its structure and in its contents are in line with societal and industry needs. The college is recognized as a QIP center for Ph D research center. The college also has various MoUs with industries to enable students to get very good exposure to industries. This enables students to secure their bright future. Students do participate in competitive events wherein they exhibit their

critical thinking and creativity. Students along with faculty have to their credit a few patents and numerous research papers at national and international forums.

6.1.3 How is the leadership involved in

- ensuring the organization's management system development, implementation and continuous improvement
- interaction with stakeholders

The hierarchy of the organization is depicted in the figure below.



The organization has good decentralization of authorities, and the overall improvements are closely monitored. The administrative, academic and financial policies are designed at the Administrative Council level, however inputs for the policy making are derived from various stake holders namely; internal faculty, staff, students, University, Directorate of Technical Education, Past students, Faculty experts from other institutes, Industries, Research Organizations etc. All the committees have been constituted as per the UGC guidelines for autonomous colleges. The committee meets regularly and the minutes of the meetings are well recorded. Academic improvements are also audited by internal and external committees. Periodic feedbacks are obtained from students, parents, alumni, employers etc for enabling overall improvement of the college. The college has also framed rules by which academic credit transfer for students has become beneficial to students. On campusplacement of the students is usually above 90% every year. Many of the alumni are working on top positions in India and abroad.

* **Reinforcing culture of excellence :**

1) The college deputes faculty in institutes of higher reputes for either enabling improve on their academic qualifications or for obtaining wider exposure for best

practices.

2) By inviting academic experts from US, the academic revamping, academic practices are refined.

3) Good faculty and a few Industry experts are attracted for teaching-learning.

4) Academic monitoring is periodically carried out by internal and external academic experts.

5) The management has set up a world class library facility with rich content of R and D literature.

6) Through various students' associations and club services on campus, students are encouraged to develop their personality skills.

Identifying needs and championing organizational development:

Training Need Analysis (TNA) has been carried out to enable improve competency of faculty.

Change management Training programmes were participated by many senior faculty members. These programmes were arranged by IIM Indore, IIM Udaipur, IIT Mumbai.

Many senior faculty members have undergone training and certification programmes on "Effective Organization Management". The programme was arranged in Lavasa by Rudtgers University (USA).

The college has a good MIS system and this is being improved.

6.1.3 Were any of the senior leadership positions of the College vacant for more than a year? If so, indicate the reasons.

No.

6.1.4 Does the College ensure that all positions in its various statutory bodies are Filled and conduct of meetings at the stipulated intervals?

Yes. All the meetings take places at stipulated intervals and the records of the meetings are maintained.

6.1.5 Does the College promote a culture of participative management? If yes, Indicate the levels of participative management.

Yes. This college practices participative management at various levels. Various positions, namely, Dean (Academics), Dean (Planning), Dean (R&D and QA), Dean (IIIC and TPO), Dean (Students), Dean (Faculty), Faculty Advisors for student activities, Coordinators, Chairman (Central Purchase Committee), Electrical Maintenance In-charge, Water Maintenance In-charge, Hostel wardens, Rector, Security In-charge, Canteen In-charge, TEQIP Coordinator, Heads of Departments etc. positions are available and working is very smooth.

The Local Management Committee (LMC) members are elected members. They work as an interface between college's top level management and employees of the college.

The College also promotes bottom up approach in budget preparation. The budget prepared so is usually approved at top level of Finance Committee and Administrative Council.

Every week, on Wednesday, College Development Council (CDC) meets to review various activities including class monitoring, and resolves various issues in participative manner.

Matters pertaining to each department are discussed with the staff during department meetings and their collective decisions and opinions areconsidered in HODs meetings.

1) Student's participation is ensured by involving them in various activities at department level as well as college level.

2) Feedback from various committees is given significant weightage forfuture decisions.

3)Feedback collected from various stakeholders are considered to improve theoverall performance.

6.1.6 Give details of the academic and administrative leadership provided by the University to the College?

The Controller of Exam (CoE)- Shivaji University, The Director, Board of College and University Development (BCUD)-Shivaji University, The Registrar-Shivaji University and The Vice Chancellor-Shivaji University provide the necessary help to the college. The college has involved these authorities of Shivaji University in various committees of the college. Students' degree convocation certificates are printed with the name of the college by the University. The Vice – Chancellor remains present at the annual Graduation Day Ceremony at the college campus in May/June to distribute the' graduation grade cards and medals to the students.

Ph. D. programme is run as per the university/DTE guidelines as far as admissions, monitoring progress of students, conduct of defense and result declaration are followed well.

For the recruitment purpose;approval of roaster, deputing university experts on faculty selection committees etc. are timely provided by the university.

6.1.7 How does the College groom the leadership at various levels?

The grooming of leadership is carried out at various levels for various positions of student, faculty and supporting staff categories. At each of these levels, the activities are initially monitored by respective higher authority in setting up of systems. In the later phase, the set systems are sincerely followed. For any modifications, the resolutions are appropriately taken up in respective committees. The departments' head positions are appointed on rotation basis among senior faculty of the respective departments, usually once in a three years. This helps in grooming leadership at the department level. Other important positions are determined for which we believe on "thrust by trust".

Various training programmes, namely; change management, orientation workshops, soft skill development workshops, yoga workshops etc are carried out. At the end of these programmes efficacy of the programme is determined

through analysis of feedback forms. If required, further counseling is provided.

This college has produced numerous alumni who are working at senior and key positions in various organizations in India and abroad.

6.1.8 Has the College evolved any strategy for knowledge management? If yes, Give details.

Yes. The college has set up 24 x 7 200 Mbps (Railtail) internet connectivity both through wired and Wi-Fi connection on entire college campus. College also has 80 Mbps another internet line (Reliance) for the hostel purpose. The college holds approximately 750 computers, 100 laptops and printing/ scanning facilities. 60 % of college students use their laptops. Library has provided list of useful links through its subscription to various e-learning sources. The college has maintained separate servers for providing these facilities to faculty, students and researchers. The college also has a studio in which rich e-learning material is created and disseminated. Few such materials are available on you-tube.

The college maintains Moodle server, data center, blade servers, MIS server though which knowledge management is affected. Indo-US Collaboration for Engineering Education (IUCEE) sponsored webinars, IIT e-outreach programmes are held regularly.

6.1.9 How are the following values reflected in various functions of the College?

* **Contributing to national development:**

In line with the vision statement of the college:-

1. The college runs demand driven curriculum to produce graduates to accept National challenges.
2. Research activities of AICTE, DST, BARC etc., are carried out in the thrust areas of national interest.

3. College runs Quality Improvement programmeof AICTE for Ph D research work.
4. Conduct of workshops for training National Board of Accreditation (NBA) Trainers /evaluators.
5. Consultancy and testing in various departments serve the purpose of providing Department expertise for national development.
6. Participation and organization of national level activities such as conferences, Seminars, workshops as deemed appropriate of national thrust are organized.
7. It organizes on-line tests for National level certification programmes of DOE ACC.

* **Fostering global competencies among students:**

  Every year, students succeed with good ranks in competitive exams of GRE, TOFEL. Alumni of the college help the present students to provide needful inputs to improve on global competencies. On campus various training programmes are arranged to improve global competency among students.

* **Inculcating a value system among student:**
  The college has a very good culture in which the value systems are well respected. The best methodologies of model teaching, counseling, respect to each other etc., are well practiced. Moreover, Students through their club services on campus visit nearby villages, colleges and schools to provide out-reach services in promoting education of local / global relevance. Blood donation camp is organized to support the local blood collection centers. In the critical times of flood in the city, students and faculty helped in various rescue operations.

* **Promoting use of technology**:

  The modernization activities are in line with advancement of technologies. Every year the internet bandwidth has been doubled so far. All class rooms have been provided with ceiling mounted LCD projectors. Employee attendance system has been supported with bio metric attendance. Procurement of

equipments is done through e-tendering system. Intranet system is strong by which use of moodle, MIS, e-learning is well promoted. The college carries out a scheme of removal of obsolescence on regular basis.

* **Quest for excellence**:

The college has a state-of-art library with inclusion / subscription of high class research articles. The college curriculum is revamped to make it world class under the guidance from US experts from HP Lab, Penn State University, Fragile Inc., University of Florida etc. and so also with the guidance of expert faculty from IITs. The college has instituted "center of excellence" labs, namely IBM center of Software Excellence, Jhon Deere Center of Advanced Research in Embeded Systems, Danfoss Air conditioning Lab, Tata technologies lab etc. The college has received special funds to set up research facility on campus to promote alumni entrepreneurs. Every year the list of these activities grows. Every year many proposals are granted from various funding authorities to institute facilities in line with advancement of technology. The students and faculty deliver best possible outcomes by using the facilities and their aspirations for getting better continues.

6.1.11 Give details of the UGC autonomous review committee's recommendations and its compliance.

The UGC committee visited college campus during October 2014 for extension of autonomy. In the exit meeting, the committee opined on good and satisfactory progress of the college. The committee's official report is awaited.

6.2 Strategy Development and Deployment

6.2.1 Does the College have a Perspective Plan for development? If so, give the aspects considered in development of policy and strategy.

The plan has been prepared and is being implemented. Salient features of the plan are as under:

* **Teaching and learning**:

Selected faculty members are deputed to IITs for completion of their PhDs. Faculty members are deputed to IITs for attending to various training programmes / conferences. It is proposed to depute few faculty members to institutes of national repute for one term for attending to course work of UG / PG programme at the institute. This would bring in better understanding of teaching – learning styles of IIT pattern. Through various webinars of IUCEE, the faculty is provided with many inputs for evolving better practices of teaching and learning.

* **Research and development**:

  The college has received R and D grant from various authorities. It is proposed to set up R and D facility especially to promote commercial and applied research. Every year count of national and international research paper publication will be increased by 10 (minimum).

* Under Community polytechnic, many awareness programmes have been organized to nearby under privileged societal sector, namely, schools, villages etc., for educating masses on health care, equipment care, tailoring, computer trainings etc. every year.

* Human resource planning and development:This is annual development activity. For newly recruited faculty members orientation programmes/pedagogy training programmes are arranged. Few in-house training programmes are regularly arranged for skill development of employees.

* Industry interaction: This is very good. Many MOUs have been signed with industries for promoting sponsored research projects. Selected students carry out one term internship in industries to complete their project / dissertation work. A few industries have set up following center of Excellence labs in the college:

  1. IBM Center of Software Excellence lab (CSE Dept)
  2. John Deere Center for advance research in Embedded systems.
  3. Danfoss lab for air conditioning.
  4. Tata Technologies lab for PLM.

* **Internationalization: Following activities are carried out:**

1. Through DAAD programme, students are being encouraged to undertake Student exchange programme with German Universities.
2. The curriculum revamping is being carried out with the expert guidance of US experts.
3. Few US experts do visit the college for delivering training programmes.
4. Alumni chapter has been set up in California.
5. IUCEE activities are well participated.
6. Enunciate the internal organizational structure of the College for decision making processes and their effectiveness.

* **Organization and Governance**

The college has a well-framed administrative set up conforming to the normsof the regulatory bodies.

* **Administration setup:**

The Chairman, Administrative council, in consultation with other members of the council designs policies on administration, finance, HR and Research activities and communicates to the Director for implementation.

The Director conveys and monitors these activities in consultation with College Development Council (CDC) members.The CDC is composed of following members under the chairmanship of the Director:

1. Deputy Director
2. Dean (Academics), Dean (Faculty), Dean (RDQA), Dean (Planning)(Industry Institute Interaction and TPO)
3. Head of Department (Civil)(Mech)(Electrical)(APM)(Electronics)(CSE)(IT)
4. Controller of Exams (CoE)
5. Central Computing Facility I/C
6. Librarian

7. Hostel Rector
8. TEQIP Co-ordinator
9. Security Incharge
10. Officer on Special Duty (OSD) (Legal)

The Director discusses with HODs and other senior members for implementing the policies.

The following statutory committees are functioning in the college to lookafter the administrative and academic procedures as per the normsstipulated by the University Grants Commission.

* **Statutory committees:**

1. Administrative Council (BoG)
2. Academic Council
3. Boards of studies

In addition to the statutory committees, the college has the following Non-statutorycommittees.

* **Non-statutory committees**

1. Admissions Committee
2. Anti-ragging Committee
3. Anti Sexual Harassment Committee
4. Disciplinary Committee
5. Purchase Committee
6. Grievance Redressal Committee
7. Library Advisory Committee
8. Student Activities Committee

The above committees are functioning in order to facilitate the successful implementation of autonomy. Each of the committees conducts itsmeetings.

6.2.3 Specify how many planned proposals were initiated/ implemented, during the

last four years. Give details.

Table 6.2.3.1
Planned proposals were initiated/ implemented, during the last four years.

Sr No	Title	Department	Status
1.	Relative Grading system software	Exam	Completed
2.	Hostel and mess refurbishment	Hostel	Completed
3.	Student activity center hall	Planning	Completed
4.	John Deere Advanced Research Center	Electronics	Completed
5.	Tata technologies Lab	Mechanical	Completed
6.	Annual Alumni meetings	---	Ongoing yearly
7.	M Tech (CSE) (IT) started	IT	Started
8.	PG CSE and PG APM accredited	CSE and APM	Accredited
9.	PG increase in intake	Mech, Electronics, Electrical, CSE, Civil	Implemented
10.	Paper presentations abroad	Faculty from various departments visited	Visited
11.	TEQIP ranking as 10/10	All Departments	Ranking obtained
12.	Patents	Civil, Electronics	Applied

6.2.4 Does the College have a formally stated quality policy? How is it designed, driven, deployed and reviewed?

Yes. The quality policy is as under:

The policy has been designed in consultation with college's stake holders. Internal and external stake holders are monitoring and providing feedback to adhere to the policy in its implementation.

6.2.5 How does the College ensure that grievances / complaints are promptly Attended to and resolved effectively? Is there a mechanism to analyze the nature of grievances for promoting better stakeholder-relationship?

The college has set up a separate grievances redressal cell. Through students' Council meetings many complaints are well attended. The lab facility, library reading facility, 24 x 7 internet facility, security facility, medical assistance, Tea-Coffee vending machines etc. have been well set up. Since many of such student centered facilities are well in place, students are satisfied. However, the redressal cell makes every attempt to solve students' problems.

6.2.6 Does the College have a mechanism for analyzing student feedback on Institutional performance? If yes, what was the institutional response?

Yes, the college has a good mechanism for obtaining (on-line) students' feedback at mid semester.Though the primary aim of this feedback is to invite students' opinions on teaching imparted by individual faculty, the feedback also allows students to comment on institutional performance in general. The feedbacks are analyzed and actions are initiated accordingly. The teachers whose performance is not reported satisfactory are identified and appropriate counseling is provided.

6.2.7 In what way the affiliating University helped the College to identify the developmental needs of the College?

University has introduced a scheme of "Lead College" concept. University enables, through this scheme, to conduct / organize various training programmes for faculty, students and supporting staff of the college for their technical / soft skill developments. University arranged on its campus orientation and awareness programmes on NACC. University invites the college to participate in various training programmes / seminars. University has promptly provided its services in issuing certificates for custom exemption to enable fast procurement of research equipments from foreign countries.

6.2.8 Does the affiliating university have a functional College Development Council (CDC) or Board of College and University Development (BCUD)? If yes, in what way College is benefitted.

Yes. The university has BCUD. It helps college for resolving affiliated related issues. The college has been selected by AICTE as QIP center for Ph D

programmes. In order to streamline the admission process of the QIP Ph D students, the BCUD had separately called meetings in the university and the QIP admissions, which do not come directly under the university processes, are regularized promptly. In the process of extension of autonomy to this college, BCUD had promptly deputed duly constituted committee.

6.2.9 How does the College get feedback from non-teaching, teaching, parents and Alumni on its functioning and how it is utilized.

The college, in its annual alumni meet in every January, collects feedback from the alumni. The feedback form has various questionnaires regarding curriculum, abilities on demonstrating various qualities to apply knowledge to solve real life problems, lifelong learning etc. The feedback is analyzed for enabling revamping curriculum and teaching-learning systems. In response to few feedbacks, every class room is equipped with wall mounted LCD projector. This projector system has helped both students and faculty for effective – teaching learning.

6.2.10 Does the College encourage autonomy to its academic departments and how does it ensure accountability?

Yes. Each of the departments has its BoS. The decisions of the BoS with minor changes are fitted into the academic structure approved by the college Academic Council. The BoS and the faculty in the department select electives to offer to students. Department Academic Coordinator (DAC) monitors under the guidelines of the Dean (Academics) and HoD, academic related issues in the department. The Department is free to adjust its academic calendar to accommodate priority events like arranging guest lectures, arranging field visits, arranging campus interviews etc.

6.2.11 Does the College conduct performance auditing of its various departments?

Yes. The college conducts internal academic audit every year. A format has been created in which the data is collected, analyzed. All the points related to compliance of the audit are communicated to respective. Moodle has been used effectively for the data collection. Through college appointed committee of internal faculty members, the internal audit is effectively carried out.

The college also invites academic experts for other autonomous colleges to carry out external academic monitoring. This is done usually, once in two years. This helps to bring in best teaching–learning practices of other institutes so also it helps in revising curriculum contents, if required.

6.3 Faculty Empowerment Strategies

6.3.1 What efforts are made by the College to enhance the professional Development of teaching and non-teaching staff?

The college implements TEQIP. As per the institute development plan (IDP) of TEQIP, skill development programmes for faculty and staff are conducted often.

Following nature of programmes have been conducted.

1. Faculty training in core areas.
2. Faculty training in curriculum development.
3. Faculty training for soft skill development
4. Senior faculty training for "Change Management".
5. Faculty training for advanced software trainings.
6. Refresher programme.
7. Non teaching trainings for technical skill development.
8. Life skill developments for nonteaching staff.
9. Inter personal / team building / leadership programmes for teaching and non teaching members.
10. Paper presentation / conference participation for faculty.

6.3.2 What is the outcome of the review of the Performance Appraisal Reports? List the major decisions.

The performance appraisal is carried out yearly. This helps college administration to identify strengths and weaknesses of individual member of teaching and non-teaching. The process is transparent. The administration accordingly provides counseling, if required. The internal (Non statutory) promotions are usually carried out based on these reports.

6.3.3 What are the welfare schemes available for teaching and non-teaching staff? What percentage of staff have availed the benefit of such schemes in the last four years?

The college has "Staff Welfare Fund (SWF)". Apart from support available from TEQIP to attend to national/ international conferences, through the SWF, faculty members have been provided with 50% of travelling expenses or Rs. 50,000/- whichever is less.

For any emergency or for any event of domestic importance, advance amount to the extent of Rs. 40,000/- is being provided to the needy staff member.

The college, through the state Government's scheme, provides medical expenses reimbursement for employee and his / her close relatives.

As an average, 30% of employees avail the advance / reimbursement facility.

6.3.4 What are the measures taken by the College for attracting and retaining Eminent faculty?

As this is a Govt aided college, the faculty recruitment is strictly carried out as per the state govt norms. Retired faculty gets extension for two years. A few retired faculty members have been reappointed from college funds, wherein a faculty appointed at the Professor level gets consolidated salary in the range of Rs 1,00,000/- to 1,25,000/- . Consolidated salary for Associate professor and assistant professor is in the range of Rs 80,000/- to Rs. 1,00,000/- and Rs 40,000/- to 80,000/- respectively.

A contractual new faculty who is yet to retire at the level of Assistant Professor, gets additional increments from college funds, depending upon experience of the faculty.

The college has provided to a faculty, who is carrying out extra work of consultancy and testing through college, gets his / her share of 60% and 50 % respectively.

Through TEQIP funds faculty members are supported for registration, travel for attending conferences/workshops/seminars, presenting papers etc.

This helps attracting and retaining faculty at this college.

6.3.5 Has the College conducted a gender audit during the last four years? If yes, Mention a few salient findings.

Even though no formal gender audit is conducted, the college, at its local level, has a rich tradition of providing equal opportunities to both the genders. The state government norms are followed in recruitments.

6.3.6 Does the College conduct any gender sensitization programs for its staff?

Anti-sexual harassment committee with a senior lady faculty member as chairperson has been formed by the college. Annually few programmes are organized by the committee for gender sensitization.

6.3.7 What is the impact of the University's UGC-Academic Staff College Programmes in enhancing competencies of the College faculty?

Annually few faculty members are deputed to Academic Staff College in Hyderabad. This helps the faculty members to improve on their competencies. It is found that such faculty members have been improved in their teaching styles.

6.4 Financial Management and Resource Mobilization

6.4.1 What is the institutional mechanism to monitor effective and efficient use of financial resources?

College has separate Finance Committee, as per the UGC guide lines. The committee meets every quarterly. Budget approval, expenditure monitoring, major equipment purchases, balance sheet analysis, college level issues of financial nature, recommendation for appointment of internal and external financial auditors, in-time compliances for financial audit points etc are well handled by the committee. The committee provides specific guidelines to the Director for effective implementations.

At the director's level, a separate central purchase committee has been constituted which meets weekly. Various proposals of purchases are submitted for approval to the Director. The purchase committee prepares analytical comments on comparative statements prepared by the proposer. These recommendations are then approved, with changes if required by the Director.

Local financial auditor prepares periodic audit reports for submission to the Director and the Finance Committee.

6.4.2 Does the College have a mechanism for internal and external audit? Give details.

Yes. College has been appointing internal and external auditors annually. The external auditor is a statutory auditor. Internal auditor makes quarterly balance sheets. The statutory auditor carries out half yearly and yearly audit.

In addition to this for the grant related fund provided by the state government, separate audit is carried out by regional office of the Directorate of Technical Education and by "Audit General (AG)" of the state government.

6.4.3 Provide audited income and expenditure statement of academic and Administrative activities of the previous four years.

An audited statement of the previous four years is enclosed.

6.4.4 Have the accounts been audited regularly? What are the major audit objections and how are they complied with?

Yes. As the audit work is done periodically and by various authorities timely, there are usually no major audit objections. A few audit objections may arise because of grant-in-aid formulations, which is very old. The college gets state government grants to the extent of 90% of admissible expenses or annual deficit, whichever is less. With this formulation and grants sometimes not received in-time may make some of the points for audit objections. The compliances are done at the earliest in consultation with the Finance Committee and the Directorate of Technical Education Mumbai.

6.4.5 Narrate the efforts taken by the College for resource mobilization.

College has been well recognized for various testing consultancy assignments. Mechanical Department, Civil Department, Applied Mechanical Department, Electrical Department are active in internal resource generation.

Electronics Department, CSE Department and IT Department are active in internal resource generation through organizing On-Line examinations for various external agencies.

Each of the above departments take active part in organizing continuing education programmes for industry workers. This adds to resource mobilization.

6.4.6 Is there any provision for the College to maintain the 'corpus fund'? If yes, give details.

Yes. The college has maintained "Corpus Fund". Every year amount equal to 20% of college's recurring amount is added to the corpus fund. This has been started from the year 2008-09. The amount of corpus as on 2014-15 is few crores.

6.5 Internal Quality Assurance System

6.5.1 Does the College conduct an academic audit of its departments? If yes, give details.

Yes. An academic audit of departments is conducted. Internal academic audits are conducted twice in a year at the end of each semester. The internal audit is conducted by an audit committee appointed by Director. Typically internal academic auditors are faculty chosen from various departments of the college. The schedule of audit is declared in advance. The faculties are provided with parameters of academic assessment. The assessment parameters include mapping of course outcomes with programme outcomes, course delivery, in-semester evaluation planned and executed, Performance of Engaging lectures, Performance of Attendance of students, Counseling, quality of question papers, attainment of course outcomes, and result analysis. The auditors are also provided with evaluation format and it is submitted to Dean RDQA after assessment for further processing. Dean RDQA compiles all the evaluations by the auditors and prepares a consolidated audit report which is sent to all departments. Heads of department take cognizance of the report and necessary corrective measures to address the non-conformities.

This is supported by external academic audit. The committee for external academic audit is composed of academic experts from various autonomous

colleges. The external academic audit is done usually once in two / three years.

6.5.2 Based on the recommendations of academic audit what specific measures have been taken by the College to improve teaching, learning and evaluation?

Based on recommendations, specific measures taken are as follows:

1. Relative grading system implemented.
2. For the four year programme, total number of credits is limited in the range of 175 to 190.
3. Interdisciplinary courses are added in the structure.
4. Students' attendance on Moodle is made mandatory and is regularly monitored.
5. Course book maintenance is well organized.
6. Question paper setting included indication for mapping of question to course outcome.
7. Concept of sponsored project at final semester is introduced. 103 Students have been sent to industries in the current academic year for a period of minimum three months, to enable them to carry out the final year's project in the industry.
8. Efforts have been taken to motivate students for developing self-learning attitude.
9. On-line examination for a few courses introduced.

6.5.3 Is there a central body within the College to continuously review the teaching Learning process? Give details of its structure, methodologies of operations and outcome?

Yes, the college has academic council academic standing committee and College Development Council (CDC) to monitor teaching learning process. Deputy Director, Deans, HoDs of all departments, OSDs are the members of CDC with Director of the institute chairing the committee.

Academic council meetings are held once in a semester, whereas academic standing committee meetings are held as and when required. All the decisions taken in academic standing committee meetings are ratified in academic council meetings. CDC meets every week on Wednesdays to discuss and resolve the issues related to teaching-learning process.

The Dean (RDQA) collects academic monitoring reports on weekly basis from all HoDs. Compensatory classes are scheduled for the academics missed out due to the any unavoidable reason. A notice to this effect is circulated. The attendance of students is displayed on students' notice boards. Special cases of less attendance, if any, are handled by the Department's Academic Coordinator (DAC).

6.5.4 How has IQAC contributed to institutionalizing quality assurance strategies and processes?

The present practice of quality assurance has contributed to plan and execute the policies uniformly throughout the college. All quality assurance strategies are applied uniformly throughout the college. Quality assurance cell plans, and schedules both internal and external academic audits. It also keeps track of accreditation status of various programmes and makes arrangement for application to accreditation agencies.

The college has instituted three committees apart from academic monitoring committee, to undertake monitoring of submissions of various issues related with accreditations. NBA committee, NAAC committee, CII committee are the three separate committees. The Dean RDQA coordinates the activities of these committees. IQAC has been framed recently.

6.5.5 Does the IQAC have external members on its committees? If so, mention any significant contribution made by such members.

IQAC has external committee members as per guidelines of NAAC.

This has been framed recently. Through e-mails, their opinion of the external IQAC members is sought so far. Based on the opinion, it is proposed to institute a cell called "Learning Factory" in the college premises. This would help students to undertake implementation of interdisciplinary projects for which the cell will remain open for 24 x 7.

6.5.6 Has the IQAC conducted any study on the incremental academic growth of students from disadvantaged sections of society?

College has implemented concept of "Makeup" examinations for those students who are found comparatively lagging. College has also implemented "Class Teacher" concept. This enables monitoring incremental academic growth of comparatively weak students. The slow learners are identified based on the result analysis every year. The students who perform poorly in the examination are given extra coaching during summer term.

6.5.7 What policies are in place for the periodic review of administrative and academic departments, subject areas, research centres, etc.?

The college maintains record of "Performance Appraisal and Development (PAD)" forms for individual faculty. This is updated annually. Through this form, faculty's administrative, academic; research, attitude and other qualities are recorded. Based on this data, a faculty is graded on a five point scale. The incremental data for consecutive five years for the individual faculty is considered for promotional policies.

There are various council/committees constituted to review the progress of various administrative and academic activities. These include

- Administrative council
- Finance committee
- Academic council
- Academic standing committee
- Internal and external audit committees
- Research committee
- Board of studies
- Departmental Advisory Board

Any additional information regarding Governance, Leadership and Management, which the institution would like to include.

The college's top management is called as "Administrative Council". Every member of the council including the Chairman of the council, insists for making the college as "World class". As the college has been established in 1947 and most of its building infrastructure is old, the management has worked out a master plan for the growth of the college. The plan has been designed by world

famous architects and planners, M/S HOK , an UD based consultants.

CRITERIA VII: INNOVATION AND BEST PRACTICES

7.1 Environment Consciousness

7.1.1 Does the College conduct a Green Audit of its campus?

Green audit is not conducted formally in the campus. The college has lavish greenery spanned over 90 acres of land. Many trees including sandal wood are plenty in number. The trees are well maintained. The college has a separate maintenance cell and water works cell for better housekeeping. All the environmental aspects duly taken care by these cells. The college campus is kept clean and green. A separate maintenance supervisor is available to upkeep the greenery. There is a separate provision for collection of solid waste from various sources. Dust bins marked with "Keep Clean Be Green" have been provided at many places for solid waste collection. In front of the library building, a very good lawn has been maintained. All the possible efforts are taken to make college campus eco-friendly. Good vegetation cover in college maintains the temperature lower by 2 to 3^0 C within campus when compared to temperature outside campus.

Provision of water treatment facility in college campus with municipal water as a feed water ensures good quality potable water. The water quality is regularly analyzed for ensuring the quality of supplied water at consumer end. Innovative and emerging systems of wastewater treatment are implemented in the college.

7.1.2 What are the initiatives taken by the College to make the campus eco-friendly?

* **Energy conservation**

For energy conservation following measures have been taken:

1. Street lights use CFL at most of the places.
2. At few places, LED lighting has been put up.
3. Use of Air conditioning unit is made only when essential.

4. Centralized water purification unit has been set up for providing potable water.
5. College has its express feeder connection for electrical supply. SCADA unit has been set up. For power factor improvement, automatic power factor corrector unit has been set up.
6. Due to lavish greenery on campus, air circulation is very good. This demands very few rooms only with air conditioning.

* **Use of renewable energy**

For use of renewable energy following measures have been taken:

1. Solar street light units have been installed on main streets.
2. Solar water heater panels have been erected in hostel premises.

* **Water harvesting**

For use of water harvesting following measures have been taken:

All roof water is collected through ducts and various sump systems have been set up to store the water. The entire roof of main building has been used for this purpose. Harvested rainwater is used for groundwater recharge. This has significantly resulted in increasing water levels in college wells, even during summer season. With this, the college is self-reliant for its water usage. This was not the situation prior to setting the roof water harvesting system. Rooftop rainwater treatment is also provided for a roof in Civil Engineering department.

* **Check Dam Construction**

The objective of check dam is to arrest the water flow and enhance the percolation rate. This is achieved by providing specially designed percolation pits by the side of roads.

* **Efforts for Carbon Neutrality:**

  The campus has enough natural greenery. The age-old big trees are along the borders of the campus. The green waste is centrally dumped and usually not burnt. This helps naturally for carbon neutrality.

* **Plantation:**

  Open area by the side of hostel is planted and regularly maintained by watering, cuttings etc. Plantation of trees is a regular phenomenon. Some departments have system of welcoming guests with a plant which is then planted in the college campus. World environment day is celebrated every year with tree plantations.

* **Hazardous Waste Management**:

  Paper waste is regularly sold to outside agency. The answer sheets are shredded and sold to licensed purchaser. College does not produce much of hazardous waste. If any such waste is found, it is destroyed under strict human supervision.There are no hazardous waste generated in college except in laboratories like Chemistry and Environmental Engineering. Adequate exhaust provisions are made in these laboratories to drive out acid fumes.

* **e-waste Management:**

  Electronic and computer accessories which are declared "Obsolete" are sold through auction to a licensed vendor on periodical basis. College also has a scheme by which new equipment are purchased under old buy back scheme.

* **Any Other:**

  Chemical fire extinguishers are charged periodically from outside licensed agency. The college has taken initiatives to make the system paperless. E-documentation policy is promoted in administrative office and and other departments. The papers are reused for printing.

7.2 Innovations

7.2.1 Provide details of innovations introduced during the last four years which have created a positive impact on the functioning of the College.

Few of innovations introduced are as under:

1. College applied for TEQIP grants. The TEQIP grant of Rs 12 crore has been released to this college. So far the performance of the college has been rated as 10 out of 10 as far as execution of the TEQIP project is concerned.
2. College has invited few US experts to enable revamping of academic structure. A series of workshops have been organized with these UD experts as resource persons to fine tune the academics.
3. College provided pedagogical and advanced training to faculty to keep them abreast with changing times.
4. College deputed a few faculty to foreign institutes to enable them deliver Academic sessions at the foreign university. This helped faculty to get better exposure to foreign institutes.
5. Number of faculty members have applied for patents.
6. College has set up advanced research lab in Embedded Systems.
7. College has set up Tata Technologies (Continuing) education center to train candidates on PLM, Modeling and Analysis.
8. Relative grading system is effectively implemented.
9. Sponsored project concept is successfully implemented.
10. A state-of-art college library has been set up and the library research holdings are enriched.
11. MIS for students' activities has been set up.

12. Internet bandwidth is increased to 200 Mbps. A spare 80 Mbps line is also made available. Wi-Fi internet access on 24 x 7 is assured on campus.
13. College lab facilities are kept open for extended hours. The labs are allowed to be managed by students in off college working hours. This helped student to also improve on their organizational skills.
14. Library is equipped well with e-journals. These journals are made available on intranet on campus for easy access.
15. In order to attract readers to visit library physically, best article read scheme has been implemented. Through this scheme, a reader in the library reads latest arrivals in library and prepares a note on his important readings. The best read notes are felicited.
16. All class rooms are equipped with wall mounted LCD. Interactive LCD screens are also installed in few class rooms.
17. On hostel side, girl student capacity is increased. The mess facilities are modernized.
18. Think- Pair- Share (TPS) concept for faculty is introduced.
19. One semester internship/project in industry for UG is implemented.
20. Administrative responsibilities to senior faculty in the capacity of Dean, Controller of Examination and Officer on special duty have been assigned.
21. Software for better management of examination process (Question paper setting, Course outcome assessment, result analysis etc) has been developed in-house.
22. DAB, BOS, AC, IQAC have been constituted for better control and monitoring of academic and administrative systems.

7.3 Best Practices

7.3.1 Give details of any two best practices which have contributed to better academic and administrative functioning of the College.

Following two on-going best practices have been listed:

Format for Presentation of Best Practices

Best Practice 1:

1. **Title of the Practice:**
   Decentralization of autonomy to departments

2. **Objective of the Practice:**

   To result into efficient and effective academic and administrative functioning**.**

   Intended outcome:

   The department will demonstrate smooth functioning of administration in delivering and monitoring academics

3. **The Context**

   Within the institute's approved academic structure, the department is authorized to make academic changes to for the better learning of the students. The Department Academic Coordinator, in consultation with the HoD, is empowered to make suitable changes (concurrent with the institute policies) in delivery and monitoring of academics. The HoD is the Chairman of the BoS and he is authorized to call upon meetings of BoS to seek further guidance.

4. **The Practice**

   BoS meetings are arranged every semester to present the performance of various classes of the programmes, present and discuss the future plans, inform about

changes in institute policy regarding curriculum etc. The suggestions by external BoS members are well taken into account and recorded in the form of minutes of the meeting. The genuine points of the discussions are brought to the notice of the Director and Academic Council. The AICTE guidelines are taken as reference in formulating the curriculum.

The academics related issues like Visit to industries, declaration of student defaulters, students' academic monitoring and administration related issues like faculty duty leaves etc are handled within the department. Department also arranges for extra coaching to slow learners for curricular/co curricular activities. Department also encourages students for out-reach services to society. Students' organizations in the department are very active and they conduct various events under the supervision of department's faculty.

Usually no difficulties are experienced either by faculty or students in the department. Constraint / limitations ate experienced when budget of the activity exceeds the pre-determined limit. With a special permission from the Director, the activities are then worked out. Sometimes, the programmes clash with academics. The HoDs are empowered to adjust/compensate for the loss of academics appropriately.

5. Evidence of Success

It is seen over last few years that the practice as above has provided satisfaction to all stake holders of the department. If the department's proposal is marginally exceeding the institute's guidelines, the Director has provided approval to the proposal on case to case basis. This has helped the department to improve on academic results, MoU s with industries, research output of the department and providing trainings to students and faculty on need based issues. Through the balance sheet, it is also evident that, over the years, the budget allocation of the departments has gone up.

6. **Problems Encountered and Resources**

With the system practiced so far, following problems have been identified:

1. Regular faculty strength in the department is not enough. Many of the contractual faculty in the department is young and new to the department. More faculty with enough experience need to be recruited.

2. The building structure is old and enough well furnished infrastructural facilities do not exist. It needs modernization of building infrastructure.

3. There is a limit on recurring expenses for each of the department. It needs more budget on recurring items from the college.

4. The college is located in a place where only few medium scale industries are present. Hence, the faculty and students lack industry exposure and frequent opportunity to listen to industry experts.

5. Any change is not easily accepted. It needs appropriate orientation to its stake holders.

Best Practice 2:

1. **Title of the Practice:**

Grade moderation in relative grading

2. **Objective of the Practice:**

To result into efficient and effective practice for students' academic grade moderation.

Intended outcome:

The faculty will demonstrate uniform application of grade moderation.

3. The Context

College has adopted relative grading system. Due to various factors of question paper setting and its assessment, it is found that the assessment results do not show normal / Gaussian distribution of assessment grades. Many of the times, the results show that they are skewed. In relative grading, faculty is empowered to select grade boundaries. However the process is so tedious that the adjusted results might not result into normal/Gaussian distribution of assessment grades. To simplify the process, automated software has been developed.

4. The Practice

A Grade Moderation Committee (GMC) has been set up to guarantee uniform outcome of applying grade moderations into normal/Gaussian distribution. The respective faculty member is invited in the GMC after all answer sheets of all other courses of the programme are assessed. For a course, the grade result curve (without moderation) is displayed first.

The software is user friendly, in which, by manually adjusting the thresholds, the nature of the curve in its newly adjusted form is displayed. The thresholds are required to be selected in such a way that two adjacent thresholds are separated with sufficient margin. The committee unanimously selects the thresholds such that the adjusted curve is more like normal/ Gaussian. Once it is done the boundaries are frozen. The software by its virtue of immediate showing the adjusted boundaries is very effective.

5. Evidence of Success

With the software in place the grade moderation work has become fast. The entire process of grade moderation for all courses of a programme gets over in two hours. Due to uniform application of grade moderation, the transparency has been improved and accepted by all faculty members.

6. Problems Encountered and Resources Required

This system has been practiced for last two semesters. The serious problems have not been observed so far.

Any additional information regarding Innovations and Best Practices, which the College would like to include.

Following best practices would be taken up for implementation in near future.

1. It is proposed that many of the courses would be evaluated on-line. This would result into faster result declarations.
2. The college would like to conduct summer term to enable slow learner to improve and fast learner to take up few courses of his interest.
3. Credit transfer policy will be affected between this college and few IITs and other autonomous colleges.
4. Twinning programme in association with foreign universities will be taken up.
5. Faculty sabbatical will be implemented.
6. Incubation center would be set up.

Evaluative Report of the Civil Department

1. Name of the Department & its year of establishment

Department of Civil Engineering established in 1947

2. Names of Programmes / Courses offered (UG, PG, M. Phil.Ph. D., Integrated Masters; Integrated Ph. D., etc.)

Table ER-Civil -1: Programme Details

S.No	Name of the program offered	Remarks
1	U. G. Program in Civil Engineering	B.Tech
2	P. G. Program in Civil - Environmental Engineering	M.Tech
3	P. G. Program in Civil - Structural Engineering	M.Tech
4	Ph. D. in Civil Engineering	Ph. D.

3. Interdisciplinary courses and departments involved

Table ER- Civil – 2: Interdisciplinary Courses

Code No.	Title	Department involved
2 CH 101	Engineering Chemistry	Chemistry
2 MA 101	Engineering Mathematics I	Mathematics
2 AM 102	Engineering Mechanics	Mechanical
2 ME 102	Engineering graphics	Mechanical
2 EE 101	Basic Electrical Engineering	Electrical
2 HS 101	Communication Skill	English
2 PH 101	Engineering Physics	Physics
2 MA 102	Engineering Mathematics II	Mathematics
2 ME 102	Basic Mechanical Engineering	Mechanical
2 EN 101	Basic Electronics Engineering	Electronics
2 CS 101	Introduction to Computer	Computer
2 MA 201	Engineering Mathematics III	Mathematics
1 IC 401	Engineering Economics and Business,ethics	Managed by Mechanical
1 IC 402	Industrial Management	Mechanical

4. Annual/ semester/choice based credit system:- Semester based credit system

5. Participation of the department in the courses offered by other departments:

The department of civil engineering undertakes the following courses offered by other departments, namely Mechanical, Electrical, Electronics, I.T. and C. S. E. at UG level

- 2 CE 101 Basic Civil Engineering
- 2 AM 102 Engineering Mechanics
- 1 HS 102 Environmental Science
- 2 ICV 201 Sustainable Development
- 2 ICV 211 Disaster Management

The department of civil engineering undertakes the course 1ICE602 - Project Management also offered by other departments, namely Mechanical, Electrical, and Electronics, at PG level.

6. Number of teaching posts sanctioned and filled (Professors/Associate Professors/ Asst. Professors)

Table ER- Civil – 3: Teaching Post Details

Teaching posts	Sanctioned	Filled
Professors	3	3
Associate Professors	6	2
Asst. Professors	12	8

7. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./Ph. D../ M. Phil. etc.,)

Table ER-Civil–4: Faculty Profile
(Students column indicates PhD students guided for last 4 years)

Name	Qualification	Designation	Specialization	No. of Years of Experience	Students
Mr. V. D. Salkar	M.E.	Associate Professor	Environmental Engineering.	31	
Dr. K. S. Wagh	M.Tech, Ph. D.	Professor	Geotechnical Engineering.	33	-
Mr.S.V.Ramchandre	M.E.,MBA	Associate Professor	Construction & Management	39	
Dr.G.R.Munavalli	M. E., Ph. D.	Associate Professor	Environmental Engineering.	23	05- In Progress
Mr.S.S.Bapat	M.Tech	Associate Professor	Geotechnical Engineering.	29	-
Dr.P.G.Sonavane	M.Tech,Ph. D.	Professor	Environmental Engineering.	24	-
Dr.K.S.Gumaste	M.Tech,Ph. D.	Associate Professor	Construction Engineering	22	2- In Progress
Mr.C.H.Wagh	M.Tech	Assistant Professor	Environmental Engineering.	19	-
Mr.A.K.Mali	M.Tech	Assistant Professor	Building Science & Technology	5	-
Mr.P.K.Deshapande	M.Sc.	Assistant Professor	Geology	16	-
Mr.A.K.Kokane	M.Tech	Assistant Professor	Construction & Management	4	-
Dr.S.N.Tande	M.Tech ,Ph. D.	Professor	Structural Engineering	25	07-In Progress
Shir.S.B.Kadam	M.E Ph. D.(App)	Assistant Professor	Structural Engineering	14	-
Shri.C.B.Pol	M.E Ph. D.(App)	Assistant Professor	Structural Engineering	10	-
Dr.N.G.Kulkarni	Ph. D.	Assistant Professor	Structural Engineering	1.5	-

Prof.J.P.Patankar	M.E	Professor	Structural Engineering	42	
Dr.A.B.Kulkarni	Ph. D.	Professor	Structural Engineering	46	02
Dr.M.R.Shiyekar	Ph. D.	Professor	Structural Engineering	40	04
Mr.M.S.Ali	M.Sc.	Lecturer	Environmental Science	6	-
Shir.R.V.Ambekar	M.Tech	Lecturer	Structural Engineering	04	-
Mr.S.D.Nirmale	M.Tech	Lecturer	Construction Management	2	-
Mr.A.G.Joshi	B.Tech.	Lecturer	Civil Engineering	1	-
Mr.A.V.Suryavanshi	B.Tech.	Lecturer	Civil Engineering	1	-

8. Percentage of classes taken by temporary faculty – programme-wise information

Table ER- Civil- 5:Percentage of classes (2014-15)

S. No	Name of the program offered	Remarks
1	UG Program in Civil Engineering	36.16% (average)
2	PG Program in Environmental Engineering	4.6% (average)
3	PG Program in Structural Engineering	48.57% (average)

9. Programme-wise Student Teacher Ratio

Table ER-Civil–6: Programme-wise Student Teacher Ratio (2014-15)

S.No	Name of the Programme	Student/ Teacher Ratio
1	U.G. (B.Tech - Civil Engineering)	18.36
2	P.G.(M.Tech–Environmental Engineering)	8.85
3	P.G. (M.Tech – Structural Engineering)	7.14

10. Number of academic support staff (technical) and administrative staff: sanctioned and filled

Table ER-Civil–7: Support Staff Details

Staff	sanctioned	filled
Academic support staff (technical)	5	5
Administrative staff	-----	----

11. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise**.

Table ER- Civil – 8: Funded R & D Project

Sr.No	Year	Name of the Project	Name of the Funding agency	Total grant received
1	2013-14	Studies on utilization of Water Treatment sludge in the vitrification of Burnt clay Bricks for Buildings	AICTE	16.30 Lakhs
2	2012-13	Package Treatment for Domestic Wastewater	AICTE	22.50 Lakhs
3	2010-11	Ambient Air and noise Quality Monitoring @ Sangli.	Maharashtra pollution Control board	16.67 Lakhs

12. Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received - NIL

13. Research facility / Centre with

State-Recognition	Ph. D. Center of Shivaji University, Kolhapur
National recognition	QIP Ph. D center since 2012
International recognition	Nil

14. Publications:

* **Number of papers published in peer reviewed journals (national / International) -** Details of publicans are attached in Annexure A of SSR

Table ER- Civil – 9: No of Faculty Publication

S. No.	Name of the staff member	International Journals	International Conference	National Journals	National Conference
1.	Mr. V.D. Salkar	02	04	01	06
2.	Dr. K. S. Wagh	0	01	0	15
3.	Mr. S. V. Ramchandre	0	02	02	01
4.	Dr. G. R.Munavalli	14	10	11	26
5.	Dr. P. G.Sonavane	03	06	07	14
6.	Dr. K. S. Gumaste	03	04	05	12
7.	Mr. C. H. Wagh	05	07	0	02
8.	Dr. S. N. Tande	14	22	07	07
9.	Mr. S. B. Kadam	05	06	Nil	03
10.	Dr. N. G. Kulkarni	04	03	Nil	03
11.	Prof. J. P. Patankar	Nil	Nil	03	03
12.	Mr. R. V. Ambekar	01	Nil	Nil	Nil

* **Monographs** : Nil

* **Chapter(s) in Books**: Nil

* **Editing Books**: Nil

* **Books with ISBN numbers with details of publishers :**

Table ER- Civil- 10: Details of Book Publishers

S. No.	Author(s)	Year	Title	CompletEReference of Book (Publisher, Edition, Page No.)
1.	Mohan Kumar and Munavalli	2005	Modeling chlorinEResiduals in urban water distribution systems	The Encyclopedia of water, John Wiley and sons Publisher, 2005, 131-137.
2.	S.S.Bapat	1992	Knowhow of concrete technology & soil mechanics	Shreyas publishers Sangli Second Edition March 1992 P-149-287

3.	Tande S. N.	2012	Elastic and Limit Analysis of R. C. Skew Slabs	LAP LAMBERT Academic Publishing, UK, ISBN: 978-3-659-13084-7, May 2012.
4.	Tande S. N. Parate K. and Bargir A.	2012	Nonlinear seismic analysis of bridges	LAP LAMBERT Academic Publishing, UK, ISBN: 978-3-659-14975-7, June 2012.

* **Number listed in International Database (For *e.g.* Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) :** Nil

* **Citation Index – range / average :**Range 11 – 224, Average – 82.33

* **SNIP :** Nil

* **SJR P:** Nil

* **Impact factor – range / average :** 0.5 – 1.5

* **h-index :**2 - 7

15. Details of patents and income generated

- **Patent Number**:- "1521/MUM/2014" Dated 01/05/2014
- **Patent Name**:-Mr.Ramchandre. S.V of associate professor in civil engineering department WCE, Sangli "relating to" an innovative method for heating water by using poly-tetra- fluoro -ethylene (PTFE) coat and the like"
- **Income generated**: - Nil

16. Areas of consultancy and income generated

Areas of consultancy: Building Material testing, soil testing, Water testing, Road material (Bitumen/aggregate) testing,

Table ER-Civil-10: Consultancy Details

Year	Income Generated (In Rs. Lakhs)
2014-2015	49.79
2013-2014	45.97
2012-2013	27.52
2011-2012	18.98

	Year	Income Generated (In Rs. Lakhs)
Environmental Lab	2014-2015	22.40
	2013-2014	21.98
	2012-2013	2.18
Soil Lab	2014-2015	5.00
	2013-2014	3.68
	2012-2013	5.48
Construction Lab	2014-2015	1.50
	2013-2014	1.00
	2012-2013	0.50
Transportation Lab	2014-2015	0.30
	2013-2014	0.30
	2012-2013	0.17
Computer Lab	2013-2014	5.12
APM Dept.(Structure)	2014-2015	20.59
	2013-2014	22.69
	2012-2013	19.19
	2011-2012	20.19

17. Faculty recharging strategies

i) Faculty members are deputed to attend faculty development programmes like summer/winter schools and workshops.
ii) Faculty members are encouraged to undertake and complete the studies for Ph. D. in house or at the institutes of repute.
iii) Faculty members are encouraged to attend conferences for paper presentation.
iv) Faculty members are encouraged to publish papers in journals.
v) The best teacher award is offered to one faculty member, based on student's feedback, each year.

18. Student projects

- Percentage of students who have done in-house projects including inter-departmental : 100%
- Percentage of students doing projects in collaboration with industries / institutes : Nil

19. Awards / recognitions received at the national and international level by

- **Faculty :**

Table ER- Civil – 11: Award/Recognition Details

S. No.	Name of faculty	Prize/Award received	Organization/Institute	Year
1.	Dr. G. R. Munavalli	S.V. Patwardhan prize for best paper published	Journal of Indian Water Works Association	2014-15
2.	Dr. S. N. Tande	The Suchit Kumar Ghosh Memorial Prize	The Institution of Engineers	2007
3.	Dr. S. N. Tande	The Dr. Jai Krishna Prize	The Institution of Engineers	2009
4.	Dr. S. N. Tande	Leading scientists of the world 2012	International Biographical Centre, Cambridge, England	2012
5.	Dr. S. N. Tande	The cambridge certificate	International Biographical Centre, Cambridge, England	2013
6.	Mr.S.B. Kadam	**Young Scientist Award** under the discipline of "Engineering science and Technology	Uttrakhand State Council for Science &Technology, Department of Science &Technology,Goverment of Uttrakhand. at 6th Uttrakhand State Science &Technology Congress-2011 held at Kumaun University, S.S.J. Campus, Almora during 14-16 November 2011.	2011

- Doctoral / post-doctoral fellows : Nil

- Students :Nil

20. Seminars/ Conferences/Workshops organized and the source of funding (national/International) with details of outstanding participants, if any.

Table ER- Civil – 12: Workshops & Training Programs

Name of Conference/ workshop/ Seminar	Source of Funding	Name of eminent researcher visited and Representing Organization	Date	Duration	Number of participants
Two day training programme on "Advanced water treatment plant design"	TEQIP-II	Sunil Patkar, Chemical Engineer, Pune"	01&02 March 2013	2 day	90
Two Days Seminar under TEQIP II on "Understanding Jan-2013 Format of NBA	TEQIP – II	Dr. R. Krishnamurthy. Educational Advisor, NBA Consultant, Bangalore	15 & 16 March 2013	2 day	90
Two day seminar on "Campus to Corporate "	TEQIP -II	Gurmeet Singh	15& 16 March 2013	2 Day	23
Two day seminar on "Appropriate methodologies for municipal solid waste management for Indian conditions"	TEQIP -II	Dr. S. Y. Mhaske, VJTI Mumbai, Prof. P. P. Bhave, VJTI, Mumbai. S. Fulari, MPCB,D. B. Prabhu Dr. S. T. Mali, Sinhgad College of Engineering., Pune	23 & 24 March 2013	2 Day	35
Two days certification course on " "Internal Auditor Training For "ISO 14001:2004 (EMS) And OHSAS 18001:2007 Integrated Management Systems''	TEQIP -II	R. Vinod, Systems And Services Certification Sr. Executive - Training Services, Mumbai	29 & 30 March 2013	2 Day	35

Two day workshop on Environmental management lifecycle sustainability assessment and industrial waste treatment	TEQIP-II	Dr. P. P. Kalbar, Freelance consultant Thane	28 & 29 March 2014	2 Day	30
AICTE sponsored national seminar on "Recent Practices and Applications in Civil Engineering	AICTE	Prof. V. V. Karjini, SGIT, Atigre Dr. P. C. Deka Prof. S. Srihari Prof. M. B. Kumthekar Manoj Chavan, CDAC Pune Ashish Deosthali, All India Institute of Local self-government Dr. S. V. Ranade	30,31 May & 1June 2013	2 Day	50

21. Student profile course-wise:

Table ER- Civil – 13: Course-wise Student Profile

Name of the Course (refer question no. 2)	Academic Year	Applications received	Selected		Pass percentage	
			Male	Female	Male	Female
B.Tech (Civil)	2010-2014	Admissions are carried out by DTE	58	22	100	100
	2009-2013		46	25	98.52	100
	2008-2012		56	20	100	100
	2007-2011		52	20	98	100
M.Tech (Environment)	2012-14	Admissions are carried out by DTE	4	8	100	100
	2011-13		4	7	100	100
	2010-12		6	2	100	100
	2009-11		4	1	100	100

M.Tech (Structure)	2012-14	Admissions are carried by DTE	10	2	100	99
	2011-13		8	4	100	100
	2010-12		7	5	100	100
	2009-11		5	2	100	100

22. Diversity of Students

Table ER- Civil – 14: Student Diversity

Name of the Course (refer question no. 2)	% of students from the college	% of students from the state	% of students from other States	% of students from other countries
M.Tech.	22.2	100	Nil	Nil
B.Tech.	NA	98.42	1.58	Nil
Ph. D.	50%	50%	Nil	Nil

23. How many students have cleared Civil Services, Defense Services, NET, SLET, GATE and any other competitive examinations?

Table ER- Civil – 15: Competitive Exam Details

Year	Name of the Examination	No of Students Qualified for examination
2014-15	GATE	20
	CAT	--
	GRE	3
2013-14	GATE	27
	CAT	--
	GRE	--
2012-2013	GATE	30
	CAT	--
	GRE	--

24. Student Progression

Table ER- Civil – 16: Student Progression

Student progression	2013-14	2012-13	2011-12	2010-11	2009-10
UG to PG	-	22	24	23	16
PG to M.Phil	-	-	-	-	-
P.G to PhD	01	01	02	01*	01
Employed • **Campus Selection** • **Other than Campus recruitment**	55/42	41/77	45/71	66/76	62/72

25. Diversity of staff

Table ER- Civil – 17: Staff Diversity

Percentage of faculty who are graduates	
Of the same parent university	85.71%
From other universities within the State	4.76%
From other universities from other States	9.52%

26. Number of faculty who were awarded Ph. D.., D.Sc. and D.Litt. during the assessment period.

- Dr.N.G.Kulkani, Assistant Professor awarded PhD from Nagoya University, Japan in the Year 2012.
- **Present details about infrastructural facilities**

a) Library :

1. Department Library is having text books for quick reference.
2. Project records as well as M. Tech. Dissertations are preserved for ready use.

Table ER- Civil – 18:Civil Department Library

Total Books	:	2063
M.Tech Dissertation	:	154
B.Tech Project Report	:	144
Journals (all Title)	:	345

b) **Internet facilities for staff and students**:

- Wi-Fi and Internet access is provided and every corner in the department.
- A central computing facility of civil department having about 45 Computer systems is provided with internet connection.

c) Total number of class rooms: 2 UG &2 PG

d) **Class rooms with ICT facility**:All four

e) **Students' laboratories**:

1.	Environmental Laboratories.
2.	Fluid Mechanics Laboratories.
3.	Computer Laboratories.
4.	Geology Laboratories.
5.	Geotechnical/Soil Engineering Laboratories.
6.	Transportation Engineering Laboratories.
7.	Construction Engineering Laboratories.
8.	Survey Laboratories.
9.	Concrete Technology
10.	Structural Mechanics Lab
11.	Structural Dynamics Lab
12.	Engineering Mechanics & Computing Facilities

f) Research laboratories :

1. Environmental Engineering.
2. Structural Engineering
3. Earthquake Engineering
4. Construction Technology

28. Number of students of the department getting financial assistance from College.

Table ER- Civil – 19: Number of beneficiary students

UG / PG	Total No. of Students			
	2014-15	2013-14	2012-13	2011-12
UG	**100**	**119**	**132**	**124**
PG (Environmental)	**6**	**16**	**8**	**2**
PG (Structural)	**5**	**10**	**12**	**2**

29. Was any need assessment exercise undertaken before the development of new program(s)? If so, give the methodology.

There are no new programmes developed

30. Does the department obtain feedback from

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?

Yes, senior faculties, reputed practitioners, and, industrialists are the members of Board of Studies in Civil Engineering who give their feedback when curriculum is revised. A suggestion from all faculty members is taken and their opinions will be considered and represented in BOS meetings.

b. Students on staff, curriculum as well as teaching-learning-evaluation and what is the response of the department to the same?

Yes, in the mid of the semester online feedback from students regarding the ongoing subjects is conducted. Further, at the end of each semester, course exit survey from the students is conducted which is designed to obtain feedback about curriculum as well as teaching-learning-evaluation processes followed. The feedback is analyzed and is given to the concerned faculty members for improvement.

c. Alumni and employers on the programmes and what is the response of the department to the same?

Yes, Feedback is obtained from alumni and employers and the same is considered during the revision of the curriculum.

31. List the distinguished alumni of the department (maximum 10)

Table ER- Civil – 20: Alumni List

S.No.	Name	Designation	Organization
1.	Dr.Subhash D.Awale	Director	NITIE Mumbai
2.	Dr.C.R.Alimchandani	Chairman & MD	STUP Consultancy
3.	Dr.B.Subbarao	President	Environmental Protection Research Foundation, Sangli
4.	Dr. S. V. Ranade	Chairman	Dnyandeep InfoTech, Sangli
5.	Dr. A. R. Tembhurkar	Head of Dept. of	VNIT, Nagpur

		Civil Engineering.	
6.	Dr. S. S. Kulkarni	Director	Rajarambapu Institute Of Technology, Rajaramnagar, Islampur
7.	Dr. A. K. Rai	Associate professor	Govt. College Of Engineering, Amravati.
8.	Mr.Ekanth Patil	Former Principal,Secretary	IrrigationDepartment of Maharashtra state
9.	Shri.Chandrdeep Narke	MLA	Karveer
10.	Mr.Ramkumar Rathi	Director	M/S.Beharay Rathi Group Pune

32. Give details of student enrichment programmes (special lectures / workshops / seminar) with external experts.

Entrepreneurship Guest Lecturers

Table ER- Civil – 21: Entrepreneurship Guest Lecturers

S. N.	Title	Organized	Duration	Date	Number of participants
1.	Research guidance	Mr. Digvijay Pawar, IIT Bombay	1 day	04 July 2012	30
2.	Advanced water treatment plant design	Dr. G. R. Munavalli and Dr. P. G. Sonavane (Civil Department)	2 Day	1 & 2 March 2013	40
3.	Campus to Corporate	Dr. P. G. Sonavane Civil Department)	2 Day	15 & 16 March 2013	23
4.	Corporate Social Responsibility	Miss. Kavita Patil	3 days	20,21 & 22 March 2014	450
5.	Scope of civil engineering in near future	Mr. Subhash Deshmane	1 Day	12 October 2014	120

Table ER- Civil – 22: Conducted Workshops/Seminar

S.No.	Event/Resource Person	Topic	Date	Venue
1	Mr. Nitant Shah	Cement Manufacturing,Blended, White Cement, Wall Putty	6th Feb 2015	Tilak Hall
2	Dr.O.R.Jaiswal	Recent Trends in Structural Dynamics & Earthquake Engineering.	31st Jan 2015	Tilak Hall
3	Dr.Subbarao & J. M. Gadgil	Workshop on Current practices in Environmental Engineering. (6Days)	29th Dec 2014	Seminar Hall
4	Dr. Arun Bapat	Expert lecture on Introduction & theory of Earthquake	18th Sep 2014	Seminar Hall
5	Dr. Chandrasekhar Putcha	Applications of Principles for reliability and Risk Analysis to Engineering and Other Fields	19th Aug 2014	Seminar Hall
6	Dr.S.Y.Mhaske & Dr.P.P.Bhave	Appropriate Methodologies for Municipal Solid waste management for Indian conditions (2days)	23rd March 2013	Seminar Hall
7	Dr. Agrawal (USA)	Webinar Series on Sustainable Energy Systems	23rd Jan 2013	Seminar Hall
8	Dr. A.D.Patawardhan	Guest lecture on Urban Waste management	7th Jan 2013	Seminar Hall
9	Dr. Chandrasekhar Putcha	Risk and reliability analysis in engineering	6-8th July, 2012	Seminar Hall
10	Mr. S.A. Deshmane.	Leak detection-Field Experiences	1st Nov.2011	Seminar Hall

11	Mr. D. M. Gokhale	Empowerment of engineering students into global panorama	23rd Sept, 2011	Seminar Hall
12	Dr. C. B. Shivayogimath	Advances in biological treatment of wastewater	20th Aug, 2011	Seminar Hall
13	Mr. GirishWalvadkar	Environmental solutions for various applications	11th Aug, 2011	Seminar Hall

33. List the teaching methods adopted by the faculty for different programmes.

- **Modes of delivery in theory courses:**
  - MD1: Lecture using Chalk and Board
  - MD2: Lecture using Power point
  - MD3: Audio/Video Lectures/film
  - MD4: Tutorial, Assignments, Seminar
- **Modes of delivery in Lab/project courses:**
  - MD5: Practical/project/ teamwork
  - MD6: Industry visits.
  - MD7: Mini Projects
  - MD8: Demo through Models and Audio/Video Indirect modes of delivery
  - MD9: Student participation in workshops, seminars, conferences, technical events.
  - MD10: Organization of workshops, seminars, conferences, expert lectures, and technical events by students.

34. How does the department ensure that programme objectives are constantly met and Learning outcomes monitored?

- Programme Educational Objectives (PEOs) are the expectations from the graduates or post graduates,three to four yearsafter passing. These are thEResults of their academic studies, field training and practical experience of at least three years. PEOs are defined by taking into consideration the opinions of all stakeholders. They are further approved by the academic council. Once approved, PEOs are disseminated amongst stakeholders and their achievement is measured systematically every year using two tools namely; Alumni survey and Employer survey. Every year an authorized Departmental Advisory board (DAB) consisting of various representative stakeholders, monitors and approves the achievement of PEOs and suggests targets, improvements for the next year. Result of attainment of PEOs for four years is depicted in the following table:

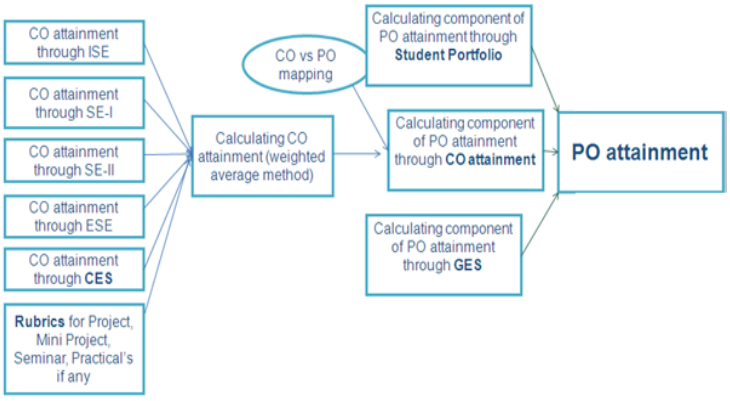
Table ER- Civil – 23: Attainment of PEOs

PEOs	Assessment Tools	Achieved level of attainment							
		CAY 2013-2014		$CAYm_1$ 2012-2013		$CAYm_2$ 2011-2012		$CAYm_3$ 2010-2011	
		Tool Wise	Overall	Tool Wise	Overall	Tool Wise	Overall	Tool Wise	Overall
PEO 1	Alumni feedback	80%	77%	79%	80%	72%	75.5%	85%	82%
	Employer feedback	74%		81%		79%		79%	
PEO 2	Alumni feedback	79%	77%	78%	78%	70%	72%	83%	78.5%
	Employer feedback	75%		78%		74%		74%	
PEO 3	Alumni feedback	78%	79.5%	79%	77.5%	68%	72%	84%	78.5%
	Employer feedback	81%		76%		76%		73%	

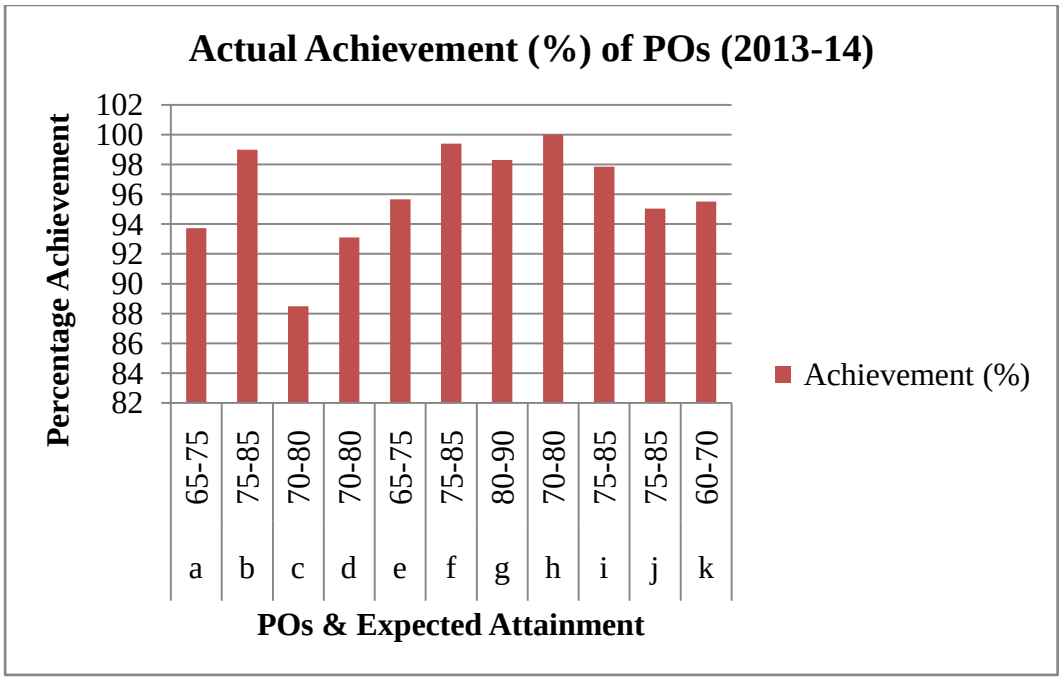
- The program outcomes (POs) are achieved through curriculum that offers a number of mandatory courses and elective courses as well as co-curricular activities. A curriculum structure is finalized considering programme outcomes. Course outcomes for individual courses are designed based on the requirement of the programme outcomes (POs).

  Each course has defined course outcomes and a set of performance criteria that are used to provide quantitative measurement of how well course outcomes are achieved. The attainment of various CO contribute to PO attainment. This PO attainment process is carried out by the Programme Assessment Committee.

  Following flow-chart depicts the various tools in computing attainment of POs



Graphical Presentation of PO attachment



35. Highlight the participation of students and faculty in extension activities.

Students:

- Students participate in co-curricular and extra-curricular events at regional and national level.
- Students also organized regional and national co-curricular and extra-curricular events under guidance of faculty.
- P. G. students also contribute by assisting the faculty in teaching, documentation as well as maintenance of laboratories.

Faculty:

- Faculty members are participating in staff development programmes, Trainings programmes, workshops and conferences.
- Faculties are helping government agencies by consultancy in Material testing, Soil testing, Water testing, Technical Audit, Survey equipment repairing, as well as by conducting training programs for them.

36. Give details of "beyond syllabus scholarly activities" of the department.

- For laboratory courses, the in-house developed laboratory manuals are provided to the students.
- Digital library facility available with Central Library is provided with

NPTEL/OCW video lectures.

- E_learning VISION software package for most of the courses of all branches accessible through intra-net.
- Wi-Fi facility enables students to access the internet even beyond college hours.
- Central internet facility and computing facility of all departments is kept open after office hours.
- Students are motivated to write and present research papers.
- Students are encouraged to tackle open ended problems through assignments and tutorials by searching the material on internet on their own.
- Laboratories are kept open to students to experiment on their ideas.
- Language laboratory facilities are provided beyond time table hours which enable students to prepare for examinations like TOEFL, GRE etc.

37. State whether the programme/ department is accredited/ graded by other agencies. Give details.

Table ER- Civil – 24: Details of Accreditation

S. No	Name of the program offered	accreditation by NBA
1	U. G. Program in Civil Engineering (B. Tech.)	for 5 Years in 2003 (Presently applied for accreditation by NBA)
2	P. G. Program in Civil – Environmental Engineering (M.Tech)	for 3 Years in 2013
3	P. G. Program in Civil - Structural Engineering (M.Tech)	for 3Years in 2012

II] **Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department**

- **Strengths:**
  - Qualified and experienced faculty members
  - Accredited UG & PG courses
  - Excellent team work among faculty and students
  - Motivated students
  - Revised and updated curriculum of UG & PG programme

- **Weaknesses:**
  - Inadequate no. of faculty and supporting staff
  - Lack of full time research scholars and technical staff.
  - Lack of trained supporting staff
  - Lack of proactive approach to enhance consultancy activity
  - Inability to attract larger research projects for the want of trained / committed students.
- **Opportunities:**
  - Flexible curriculum
  - Enhanced R&D, consultancy and CEPs
  - Improved campus placement
  - Increased revenue generation
  - Development of faculty and supporting staff
- **Challenges**
  - Low level of technical competency of supporting staff
  - Poor remuneration for fresh graduates
  - Old infrastructure demanding large rehabilitation and maintenance costs
  - Few Industries in and around Sangli
  - Complacency

38. Future plans of the department. :-

- In civil engineering projects, Remote Sensing (RS) and Geographical Information System (GIS) techniques can become potential and indispensable tools. Various civil engineering application areas include regional planning and site investigation, terrain mapping and analysis, water resources engineering, town planning and urban infrastructure development, transportation network analysis, landslide analysis, etc. There are ample evidences of applying the recent advances in satellite based remote sensing and GIS technology in various fields of Civil Engineering. India's space programme ensuring continuous availability of Remote Sensing data and launching of future satellites carrying high spatial and spectral resolution sensors can go a long way in providing useful information required for civil engineering applications. So the CIVIL@ WCES has planned to develop application center to facilitate use of RS & GIS in civil engineering.
- In order to inform and facilitate the implementation of national environmental legislations, and further to boost research for environmental management CIVIL@ WCES plans to strengthen existing facilities in environmental engineering laboratory. The laboratory possesses a good deal of modern equipment required for this purpose. Further development plans are aiming at

facilities for automatic & computer faced data management of experimental studies in the field of water treatment. Facilities for use of RS & GIS for EIA studies are also earmarked for proposed development in near future.

- The department is also planning to enhance industry-institute interaction by encouraging PG and UG students to undertake projects on applied research in collaboration with various industries.

Evaluative Report of Mechanical Department

1. Name of the Department & its year of establishment :
Department of Mechanical Engineering Established in 1955

2. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)

Table ER-ME-1: Programme Details

Programme	UG	PG			Ph.D.
Name of the Spl.		Design	Heat Power	Production	Under QIP Scheme
Intake	60	30	18	30	01

3. Interdisciplinary courses and departments involved :

All First year courses are common and offered by the concerned department.

Table ER – ME -2: Interdisciplinary Courses

Class	No. of Students	Course Title	Department Involved
FY B Tech	60	Engineering Chemistry	Chemistry
FY B Tech	60	Engineering Physics	Physics
FY B Tech	60	Engineering Mathematics I	Mathematics
FY B Tech	60	Engineering Mathematics II	Mathematics
FY B Tech	60	Basic Electrical Engineering	Electrical
FY B Tech	60	Basic Civil Engineering	Civil
FY B Tech	60	Communication Skills	English
FY B Tech	60	Basic Electronics Engineering	Electronics
FY B Tech	60	Introduction to Computers	Computer
TY B Tech	12	Digital Signal Processing	Electronics Engg
TY B Tech	08	Electronics systems	Electronics Engg
Final Year B Tech	3	Networking and Security	Computer Science Engg
Final Year B Tech	11	Communication Engg	Electronics Engg

4. Annual/ semester/choice based credit system :

Both UG and PG programs have Semester based credit system.

5. Participation of the department in the courses offered by other departments :

Department of Mechanical engineering undertakes the following courses offered by other departments namely Civil, Electrical, Electronics, I.T and CSE at UG level.

Table ER – ME -3: Courses offered by other departments

Class	No. Of Students	Course Title	Offered by Which Department
FY B.Tech	60 per semester	Engg Graphics, Basic Mechanical Engg	Other than Mechanical
FY M Tech	90 per year	Research Methodology	All
TY B Tech	12	Energy and Power Plant Engg	All
Final Year B Tech	08	Automobile Engg	All

6. Number of teaching posts sanctioned and filled (Professors/Associate Professors/ Asst. Professors)

Table ER – ME -4: Teaching Post Details

	UG		PG	
	Sanctioned	Filled	Sanctioned	Filled
Professors	3	3	1	-
Associate Professors	6	5	2	-
Asst. Professor	13	11	6	02

7. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)

Table ER – ME – 5 Faculty Profile

(Students column indicates number of Ph.D. students guided for last 4 years)

Sr No.	Name	Qualification	Designation	Specialization	No. of years of teaching experience	Students
1	Dr. B.S. Gawali	ME Ph.D	Professor	Heat Power	23	8-in progress
2	Dr. S.P. Chavan	ME Ph.D	Professor	Design	33	8-in progress
3	Dr. U.A. Dabade	M.Tech. Ph.D.	Professor	Mechanical Production	18	7- in progress
4	M.B. Patwardhan	ME	Asso. Professor	Design	27	--
5	Dr. K.H. Inamdar	ME Ph.D	Asso. Professor	Production	12	--
6	Dr. S.U. Sapkal	ME Ph.D	Asso. Professor	Production	14	--
7	Dr. R.G. Chougule	ME Ph.D	Asso. Professor	Production	14	--
8	B.N. Naik	M. Tech	Asst. Professor	Heat Power	6	--
9	S.V. Gaikwad	M. Tech	Asst. Professor	Production	6	--
10	J.M. Dabir	M-Tech	Asst. Professor	Production	19	--
11	M.M. Khot	ME	Asst. Professor	Design	4	--
12	A.U. Paranjpe	M. Tech	Asst. Professor	Design	9	--
13	A.B. Admuthe	M. Tech	Asst. Professor	Material Science	10	--
14	P.A. Mane	ME	Asst. Professor	Heat Power	5	--

15	V.B. Swami	M. Tech	Asst. Professor	Heat Power	5	--
16	A.P. Patil	ME	Asst. Professor	Design	8	--
17	R.M. Chanmanwar	ME	Asst. Professor	Production Engineering	2	--
18	S.D. Jagtap	M. Tech	Asst. Professor	Thermal Engg.	2.8	--
19	M.S. Joshi	ME	Asso. Professor	Heat Power	31	--
20	J.G. Kulkarni	ME	Asso. Professor	Heat Power	37	--
21	J.G. Gajendragadkar	ME	Asso. Professor	Design	37	--
22	R.G. Pujari	B.E.	Pro-term Lecturer	Mechanical	36	--
23	Miss P.V. Kulkarni	ME	Pro-term Lecturer	Mechanical	2	--
24	P.B. Kulkarni	M.Tech	Pro-term Lecturer	Energy Engineering	3	--
25	Mrs. D.M. Kaulgud	M.Com M.B.A.	Asst Prof. Ad	Management	10	--
26	S.S. Mane	M.Tech	Asst. Professor	Automobile	3	--
27	R.P. Chumble	ME	Asst. Professor	Design	3	--

8. Percentage of classes taken by temporary faculty – programme-wise information

Table ER- ME- 6 Percentage of classes

Sr no.	Program	Percentage of classes taken by temporary faculty	
		Sem II 2014-15	Sem I 2014-15
1	UG	43	33
2	PG	27	19

9. Programme-wise Student Teacher Ratio (STR)

Table ER-ME-7: Student Teacher Ratio (UG)

Name of the Programme	Year	STR
UG (B-Tech Mechanical Engineering)	2011-12	17.77
	2012-13	19.25
	2013-14	18.83
	2014-15	18.95

Table ER-ME-8 Student Teacher Ratio (PG)

	Year	M-Tech		
		Heat Power Engineering	Design Engineering	Production Engineering
STR	2014-15	9.6	10.23	12.93

10 Number of academic support staff (technical) and administrative staff: sanctioned and filled.

Table ER-ME-9: Support Staff Details

Sr No.	Category	Sanctioned	Filled
1	Support Staff (Technical)	23	23
2	Administrative Staff	4	4

11. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise.

Table ER–ME–10: Funded R & D Projects

Name of the Funding Agencies and Project Name	National International Agency	Total grants received	No. of Faculty Involved	Year
DST-WOS-A-/SB	National	Rs.14.04 lakhs	1	2010-2011
AICTE, New Delhi DST India AICTE-MODROB BRNS	National	Rs.98.57 lakhs	4	2012-2013
RPS	National	Rs.17.6 lakhs	3	2013-2014

12. Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received:

Table ER–ME-11: Total Grant Received

Sr. No.	Title of Project	Agency	Year of Sanction	Amount of grant received (Rs. In Lakhs)	Project Coordinator
1	Design and development of a flexure bearing for miniature linear compressor	DST, New Delhi	2010	14.04	M.M.Khot.
2	Research in electro discharge machining	AICTE, New Delhi	2012	18.2	Dr.U.A.Dabade
3	Machining of MMCs	DST India	2012	23.5	Dr.U.A.Dabade

4	Development of Metallurgy laboratory	AICTE-MODROB	2012	13.70 0.45	Dr.S.P.Chavan& Mr.A.B.Admute
5	Development of Rasin making system	BRNS	2012	24.67	Dr.S.P.Chavan& Dr.B.N.Naik
6	Development of Mechatronics Lab	AICTE-MODROB	2012	18.05	Dr S. P. Chavan
7	Study of Static & Dynamic Behavior of HCS	RPS	2013	8.8	Mr A. P. Patil & Dr. S. P.Chavan.
8	Development of Automated Inspection Method for Metal Castings	RPS	2013	8.8	Dr. K.H.Inamdar.

13. Research facility / centre

State Level : Shivaji University PhD Research Centre

National Level : QIP Minor centre for PhD Research since 2012

14. Publications:

Details of Faculty Publications

Table ER–ME-12: No. Of Faculty Publications

Sr No	Name of Faculty	National Conference	International Conference	National Journal	International Journal
1	A B Admuthe	0	2	0	0
2	Dr S P Chavan	1	1	5	2
3	Mr A P Patil	0	2	0	0
4	Dr B S Gawali	1	4	1	5
5	Mr M M Khot	1	3	0	1
6	Mr P A Mane	1	1	0	7
7	Dr K H Inamdar	4	24	1	26
8	Dr U A Dabade	13	10	0	3
9	Mr V B Swami	0	0	0	3
10	Mr R M Chanmanwar	0	0	0	0
11	Dr R C Chougule	2	6	1	1
12	Dr S S Sapkal	0	2	0	0
13	Mr S D Jagtap	2	0	0	0

* Monographs - Nil

* Chapter(s) in Books - Nil

* Editing Books - Nil

* Books with ISBN numbers with details of publishers

Table ER-ME-13:Books Published

Name of the faculty	Name of the book	Publisher	ISBN No.
Dr. K.H. Inamdar	Non Conventional Energy Sources	Electrotech Publications Engineering Series	ISBN 978-81-927881-6-6

* number listed in International Database (For *e.g.* Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) - Nil

* Citation Index – range / average Nil

* SNIP - Nil

* SJR - Nil

* Impact factor – range / average - 1.25 to 2.315

* h-index (average) : 7

Table ER-ME-14: Details of Impact Factor and h-index

Name of Faculty	Citation Index– range/ average	Impact factor–range/ average	h-index	I10-index
Dr. Uday A. Dabade	245	2.315	07	06
Dr Rahul Chougule	193	1.56	07	05
Dr.B.S. Gawali	08	1.74	02	-
Prof. P A Mane	11	1.864	02	-
Prof. R. M. Chanmanwar	01	1.367	01	-

15. Details of Papers Published and Research awards/Recognition received by faculty

Table ER–ME-15: Details of Research Papers Published

Name Of Faculty	Author(s)	Year	Title	Name and Place of Conference
Dr. U. A Dabade	Uday A. Dabade and Shailesh S. Shirguppikar	2015	Experimental Investigation Of Dry EDM	National conference on Recent Trends in Interdisciplinary Research in Material Science – 2014, Annasaheb Dange College of Engineering, Ashta, Sangli
Prof.P.A. Mane	S.P.Mane, P.A.Mane	2015	Trials And Analysis On Belt Conveyor System Used For Cooling Of Casting Mould	International Journal of Current Engineering and Technology
Dr.K.H Inamdar	Dr.K.H Inamdar	2015	Optimization Of High Speed Hard Turning Process Parameters Of AISI O1 Steel Using Taguchi Method	International Conference on Advances in Production and Industrial Engineering, NIT Trichy,
Dr.K.H Inamdar	Dr.K.H Inamdar	2015	Effect Of Process Parameters On Resistance Welding- A Review	5th National Conference on Emerging Trends in Engineering Technology and Architecture, NCETETA 2015
Dr.K.H Inamdar	Dr.K.H Inamdar	2015	An Investigation Of Quality In CO2 Laser Cutting Of Stainless Steel 304	5th National Conference on Emerging Trends in Engineering Technology and Architecture, NCETETA 2015
Prof.P. A. Mane	R.C.Prajapati, P.A.Mane	2015	Review Of Recent Techniques Of Heat Transfer Enhancement And Validation Of Heat Exchanger	Journal of Emerging Technologies and Innovative Research (JETIR)
Prof.P. A. Mane	Shewale Omkar, Mane Pravin	2014	Experimental Investigation Of Double-Pipe Heat Exchanger With Helical Fins On The Inner Rotating Tube	IJRET: International Journal of Research in Engineering and Technology

Dr.S.U. Sapkal	Mitali S. Mhatre, Sagar U. Sapkal Raju S. Pawade	2014	Electro Discharge Machining Characteristics Of Ti-6Al-4V Alloy: A Grey Relational Optimization	International Conference on Advances in Manufacturing and Materials Engineering, ICAMME 2014, Procedia Materials Science, Volume 5, 2014, Pages 2014–2022
Dr.K.H Inamdar	Dr.K.H. Inamdar	2014	Casting Defect Analysis Using Doe & Optimisation Of Parameters Through Simulation	National conference on Emerging Trends in Productivity, 2014
Dr. U. A Dabade	UA Dabade	2013	Effect Of EDM Process Parameters For Burr Removal Of Drilled Holes Of Inconel-718	ASME 2013 International Mechanical Engineering Congress and Exposition, USA
Dr. U. A Dabade	UA Dabade, RC Bhedasgaonkar	2013	Casting Defect Analysis Using Design Of Experiments (Doe) And Computer Aided Casting Simulation Technique	Procedia CIRP 7, 616-621
Dr. U. A Dabade	Uday A. Dabade and Sunil J. Raykar	2013	Cooling Techniques To Improve Surface Integrity Of Inconel 718: A Review	National Conference on Emerging Trends in Engineering, Technology & Architecture 2013, Organised by D.Y. Patil College of Engineering, Kolhapur
Dr. U. A Dabade	UA Dabade	2013	Multi-Objective Process Optimization To Improve Surface Integrity On Turned Surface Of Al/Sicp Metal Matrix Composites Using Grey Relational Analysis	Procedia CIRP 7, 299-304
Dr. U. A Dabade	Uday A. Dabade and Sunil J. Raykar	2013	Cooling Techniques To Improve Surface Integrity Of Inconel 718: A Review	National Conference on Emerging Trends in Engineering, Technology & Architecture 2013, Organised by D.Y. Patil College of Engineering, Kolhapur

Mr.R.G. Chougule	Abhinav Gaur, SunithBandaru, Kalyanmoy Deb, Rahul Chougule, Vineet Khare,	2013	Identification And Impact Of High Priority Field Failures In Passenger Vehicles Using Evolutionary Optimization	Seventh International Conference on bio-inspired computing, India
Dr.B.S. Gawali	DA Kamble, BS Gawali	2013	Analysis Of Triangular Microchannel Under Forced Convection Heat Transfer Condition For Laminar Flow Condition	4th International Conference on Micro/Nanoscale Heat and Mass Transfer, ASME, USA
Prof.R.M. Chanman war	R M Chanmanwar, L N wankhade, V M Nandedkar	2013	Optimization Of ECM Process Parameters	SPCE, Mumbai
Prof.R.M. Chanman war	R M Chanmanwar	2013	Application And Manufacturing Of Microfluidic Devices	IJMER 2013
Dr.K.H Inamdar	Dr.K.H. Inamdar	2013	Use Of Genetic Algorithm In Riser Design	International Conference on Recent Trends in Engineering and Technology 2013 (ICRTET2013)
Dr.K.H Inamdar	Dr.K.H. Inamdar	2013	Various Approaches Used In Simulation Software And Conception Of Modeling In Manufacturing Process	International Conference on Recent Trends in Engineering and Technology 2013 (ICRTET2013)
Dr.K.H Inamdar	Dr.K.H. Inamdar	2013	Surface Defect Analysis Of The Exterior Surface Of An Automobile: A Brief Review," International Conference On Recent Trends In Engineering And Technology-2013	International Conference on Recent Trends in Engineering and Technology 2013 (ICRTET2013)
Dr.K.H Inamdar	Dr.K.H. Inamdar	2013	Optimization Of Resistance Seam Welding Process Parameters Using ANOVA	International Conference on Design, Manufacturing, and mechatronics,
Dr.K.H Inamdar	Dr.K.H. Inamdar	2013	Casting Process Improvement Using ANN	International Conference on Design, Manufacturing, and mechatronics,

Dr.K.H Inamdar	Dr.K.H. Inamdar	2013	Defect Reduction In Fabricated Items Using Root Cause Analysis	International Conference on Design, Manufacturing, and mechatronics,
Dr.K.H Inamdar	Dr.K.H. Inamdar	2012	Design Development and Performance Analysis Of Twin Lobe Roots Blower Using Steel Shaft,	National Conference on Recent Trends in Instrumentation (NCRTI-2012), PVPIT, Budhgaon
Dr. U. A Dabade	Uday A. Dabade and Arush Oswal	2012	Effect Of Vehicle Speed On Rolling Resistance: Fuel Economy	1st National Conference on Recent Advancements in Engineering (NCRAE-2012), organised by Sanjeevan Engineering and Technology Institute, Panhala
Dr. U. A Dabade	Uday A. Dabade and S.V. Gaikwad	2012	Analysis Of Surface Roughness In Face Milling With Self-Propelled Round Insert Milling Cutter	Third National Conference on Recent Advances in Manufacturing (RAM - 2012) S.V. National Institute of Technology, Surat – 395007, India
Dr. U. A Dabade	Uday A. Dabade and Arush Oswal	2012	Effect Of Vehicle Speed On Rolling Resistance	Third National Conference on Recent Advances in Manufacturing (RAM - 2012) S.V. National Institute of Technology, Surat – 395007, India
Dr. U. A Dabade	Uday A. Dabade, P Mujumdar	2012	Development Of Test Rig For Frictional Torque Measurement Of An Automobile Engine	Proceedings of 27th National Convention of Production Engineers and National, BIT, Mesra, Ranchi.
Dr. U. A Dabade	Uday A. Dabade, R Bhedasgaonkar	2012	Analysis Of Casting Defects By Design Of Experiments Method	Proceedings of 27th National Convention of Production Engineers and National, BIT, Mesra, Ranchi.
Dr. U. A Dabade	Uday A. Dabade, HC Pandit	2012	Application Of Historical Data In Foundry For Casting Parameter Optimisation	Proceedings of 27th National Convention of Production Engineers and National, BIT, Mesra, Ranchi.
Dr. U. A Dabade	Uday A. Dabade, H.C. Pandit	2012	A Novel Web-Based System For Casting Defect Analysis	Technical transactions of 60th Indian Foundry Congress, Bangalore.
Prof.P. A. Mane	S.P.Mane, P.A.Mane	2012	Design, Manufacture And Analysis Of Belt Conveyor System Used For Cooling Of Mould	International Journal of Engineering Research and Applications (IJERA)

Dr. U. A Dabade	Uday A. Dabade, SS Kamat	2011	Analysis Of Machining Process Parameters During Turning Of EN 24 Steel	Proceedings of 5th International Conference on Advances in Mechanical, S.V. National Institute of Technology, Surat.
Dr. U. A Dabade	Uday A. Dabade, SP Nevagi	2011	Some Study On Die Sinking EDM Of Inconel - 718	Proceedings of 5th International Conference on Advances in Mechanical, S.V. National Institute of Technology, Surat
Mr.R.G. Chougule	SunithBandaru, Kalyanmoy Deb, VineetKhare, Rahul Chougule	2011	Quatitative Modeling Of Customer Satisfaction From Service Data Using Evolutionary Optimization	Genetic and Evolutionary ComputationConference (GECCO-2011), Ireland
Dr.S.U. Sapkal	Dipak Laha and Sagar U. Sapkal	2011	An Efficient Heuristic Algorithm For Machine No-Wait Flow Shops	International Multiconference of Engineers and Computer Scientists, Hongkong.
Mr.R.G. Chougule	DnyaneshRajpathak, Rahul Chougule, PulakBandyopadhyay	2010	A Knowledge Discovery Framework For Automotive Service Enhancement Using Association And Text Mining	Workshop on IVHM, 14th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), June 2010, Hyderabad.
Dr. U. A Dabade	Uday A. Dabade, CD Dhaphale	2010	Preparation For 5S Implementation And Ergonomics Analysis For Assembly Line Of Gensets	Proceedings of National Conference on Recent Advances in Manufacturing, S.V. National Institute of Technology, Surat
Dr. U. A Dabade	Uday A. Dabade	2010	A Review Of Wire EDM Process	Proceedings of National Conference on Recent Advances in ManufacturingS.V. National Institute of Technology, Surat
Mr.R.G. Chougule	Rahul Chougule and SugatoChakrabarty	2009	Ontology Based Knowledge Retrieval For Improved Equipment Diagnosis In Vehicle Assembly Plant	Proceedings of IEEE Conference on Automation and Software Engineering (CASE 2009), IISc Bangalore
Dr. U. A Dabade	Uday A. Dabade, V.V. Bhanuprasad	2009	Effect Of Machining On Work Hardening Characteristics Of Powder Metallurgy Processed Al/Sicp Metal Matrix Composites	Proceedings of PM09 conference, Goa

Dr. U. A Dabade	Uday A. Dabade, SS Joshi	2008	Characteristics Of Machined Surfaces On Al/Sicp Metal Matrix Composites	Proceedings of International and INCCOM-6 Conference on Future Trends, IIT Kanpur
Dr. U. A Dabade	Uday A. Dabade, SS Joshi	2008	Analysis Of Chip Formation Mechanism In Machining Of Al/Sicp Composites	Proceedings of Eight Asia-Pacific Conference on Materials Processing, National University of Singapore
Dr. U. A Dabade	Uday A. Dabade, Suhas S. Joshi	2006	Surface Finish And Integrity Of Machined Surfaces On Al/Sicp Composites	The Seventh Asia Pacific Conference on Materials Processing, 7th APCMP, 2006, Navyang Technological University, Singapore
Dr. U. A Dabade	SS Joshi, Uday A. Dabade, S. Subbiah, S. N. Melkote, N	2006	Evidence Of Ductile Tearing Ahead Of The Cutting Tool And Modeling The Energy Consumed In Material Separation In Micro-Cutting	ASME International Conference on Manufacturing Science and Engineering, MI, USA.
Dr. U. A Dabade	Uday A Dabade, Harshad Sonawane, Rahul Nilngekar,	2006	Study Of Influence Of Process Parameters Of Surface Roughness Finish In Ball Burnishing Of Aluminium (Al 6351) Alloy	International conference on Advances in Materials Processing, Anna University, Chennai,
Dr. U. A Dabade	Uday A. Dabade, SS Joshi	2006	Machining Of Al/Sicp Metal Matrix Composites: A Review	Proceedings of National Seminar on Advances in Product Development (APD 2006), MNNIT Allahabad
Dr. U. A Dabade	Uday A. Dabade, Raju Pawade, Nitin Banait	2006	E- Manufacturing: A Review	Proceedings of National Conference on Automation in Manufacturing Technology, Northern India Engineering College, New Delhi
Dr. U. A Dabade	Uday A Dabade, Harshad Sonawane, Rahul Nilngekar	2006	Study Of Influence Of Process Parameters Of Surface Roughness Finish In Ball Burnishing Of Aluminium (Al 6351) Alloy	Proceedings of International conference on Advances in Materials Processing

Dr. U. A Dabade	PA Karkhanis, UA Dabade, NS Banait, N Ramakrishnan	2006	Automated Storage And Retrieval System (As/Rs): History And Opportu Nities	Proceedings of All India Seminar on Advances in Product Development (APD-2006)
Dr.B.S. Gawali	BS Gawali, KG Narayankhedkar	2006	Performance Prediction And Experimental Investigations On Integral Pulse Tube Cryocooler For 15 W At 70 K Using Indigenously Developed Linear Compressor	Advances In Cryogenic Engineering: Transactions of the Cryogenic Engineering Conference-CEC, V823, pp 11-18.
Dr. U. A Dabade	Uday A. Dabade, SS Joshi	2005	Surface Integrity And Surface Finish Of Machined Surface Of Al/Sicp Composites	Proceeding of 4th National Conference on 'Precision Engineering' (COPEN 2005), Jadavpur University, Kolkata
Dr. U. A Dabade	Uday A. Dabade	2005	Study Of Quality Control Policies And Methods: A Review	Proceedings of 11th International Conference on Productivity and Quality, Indian Institute of Technology, New Delhi ,India
Dr. U. A Dabade	Uday A. Dabade	2005	Optimization Of Electrode Wear Rate (EWR) Quality In EDM Process Using Taguchi Method	Proceedings of 11th International Conference on Productivity and Quality, Indian Institute of Technology, New Delhi ,India
Dr. U. A Dabade	Uday A. Dabade	2004	Laser Beam Micromachining Process And Applications: A Review	National Conference, (NACAME 2004)
Dr. U. A Dabade	Uday A. Dabade, Rohit Patil	2004	Non-Conventional Micromachining Processes And Applications: A Review	National Conference on State of the Art of Technologies in Mechanical
Mr.R.G. Chougule	B. Ravi, D Joshi, R G Chougule	2005	Survey Of Computer Applications In Indian Foundry Industry: Benefits And Bottlenecks	53rd Indian Foundry Congress, Kolkata
Mr.R.G. Chougule	B. Ravi, R. G Chougule	2005	Concepts On Cost Modelling And Cost Reduction In Foundry Industry	National Convention on Cost Cutting and Advancements in Forging, Sheet Metal Forming & Fasteners and Modern Foundry Techniques, February 14-15, 2005, Mumbai

Mr.R.G. Chougule	R.G. Chougule, B. Ravi	2004	Collaborative Design For Manufacture – Metal Casting Applications	IEEE Conference on Intelligent Engineering Systems, Romania
Mr.R.G. Chougule	M.K. Jalan, R.G. Chougule, B. Ravi	2003	Knowledge Management For Collaborative Engineering Of Casting	Proceedings of International Symposium on Product Lifecycle Management, 2003, Indian Institute of Science, Bangalore
Mr.R.G. Chougule	R.G. Chougule, M.K.Jalan and B. Ravi	2003	Casting Knowledge Management In A Virtual Foundry Environment	19th International Conference on CAD/CAM, Robotics and Factories of the Future, Kuala Lumpur
Dr.B.S. Gawali	B S Gawali, K. G. Narayankhedkar	2003	Design And Development Of An Orifice/Inertance Pulse Tube Cryocooler Using A Linear Compressor	Cryogenic Engineering Conference, USA
Mr.R.G. Chougule	R.G. Chougule, M.M. Akarte, B. Ravi	2002	Virtual Foundry Modeling And Its Applications	Proceedings of 20th AIMTDR Conference, Ranchi
Mr.R.G. Chougule	R.G. Chougule, B. Ravi	2002	Web-Based Preliminary Process Planning Of Cast Components	Proceedings of International Conference on E-manufacturing, Bhopal
Dr. U. A Dabade	Uday A. Dabade, D. M. Pendse	2001	Process Modeling And Development Of Self-Propelled Rotary Insert Milling Cutter	Proceedings of the 8th India-Japan Joint Seminar on Manufacturing

15. Details of patents and income generated

Table ER-ME-16 Details of Patents

Faculty Name	Patent Name	Patent No.	Income Generated
Dr.K.H Inamdar	Method and apparatus for analysis of roughness quality of flat metal surface by image processing.	624/MUM/2012 Dated 4 May 2012	Nil
Dr S P Chavan	Method and device for changing , governing of Compression Ration of I C Engine	022/MUM/3494/dated 26 September 2007	Nil
Dr S P Chavan	System for turning Vehicle with minimum turning radius	3250/MUM/2014 A	Nil

16. Areas of consultancy and income generated

Table ER-ME-17 Consultancy Details

Sr No.	Name of Faculty	Area of Consultancy	Income generated (in Rs Lakhs)
1	Dr. B.S. Gawali	Thermal Engineering	1.5
2	Dr.S.P. Chavan	Vibration analysis and Condition monitoring	9
3	Mr.M.S.Joshi	Refrigeration	0.25
4	Dr.U.A. Dabade	Manufacturing	0.47
5	Dr.K.H.Inamdar	Manufacturing	0.10
6	Mr. P. A. Mane	Fluid Mechanics/ Machinery, Design	0.5
7	Mr A U Paranjpe	Vibration analysis and Condition monitoring	4.5
8	Mr A P Patil	Vibration analysis and Condition monitoring	4.5

17. Faculty recharging strategies

Following are the strategies adopted by the institute to motivate and recharge the faculty

1. Arranging seminars and workshops on advanced topics and technical enhancement
2. Seminars on development of Life skills are arranged in institute for faculty.
3. Deputing faculties to participate in workshops held by premier institutions like IITs and NITs.
4. Trips are arranged exclusively for staff in areas full of natural beauty.
5. Regular get together is arranged.

18. Student Projects

Table ER-ME-18 Students Projects

1	Percentage of students who have done in-house projects including inter-departmental	70%
2	Percentage of students doing projects in collaboration with industries / institutes	30%

19. Awards / recognitions received at the national and international level by

- **Faculty**
- **Doctoral / post doctoral fellows**
- **Students**

Table ER-ME-19 Faculty Awards

Sr No.	Name of faculty	Prize/Award received	Organization/Institute	Year
1	Dr R G Chougule	Boss Kettering Award	General Motors Inc	2010
2	Dr R G Chougule	Charles McCuen innovation award	General Motors Inc	2010
3	Dr R G Chougule	GM India Presidents Honour	General Motors Inc	2010
4	Dr R G Chougule	Innovation Milestone Award	General Motors Inc	2011
5	Dr. U. A. Dabade	DST- FAST TRACK Young Scientist Award	Department of Science & Technology, New Delhi	2012
6	Dr B S Gawali	Consistent Contribution in HVAC	American Society of Heating, Refrigeration and Air Conditioning Engineers	2012

Doctorol Fellows:

Table ER-M-20 Details of Doctoral Fellows

Sr No	Name of Faculty	Centre	Status
1	Mr A U Paranjpe	IIT, Bombay	Ongoing
2	Mr B N Naik	IIT, Delhi	Ongoing
3	Mr S V Gaikwad	IIT, Roorkee	Ongoing
4	Mr M M Khot	Shivaji University	Thesis Submitted
5	Mr P A Mane	Shivaji University	Ongoing
6	Mr A P Patil	Shivaji University	Ongoing
7	Mr V B Swami	Shivaji University	Ongoing

Achievements by Students:

Table ER-ME-21 Students Publications

Sr. No	Name of the Student	Topic	Journal
1	Ashish Patil, Avinash Karande, Makrand Bhosale, Mahesh Devtale	"Study of damping capacity of Al-12Si-0.5Mg Al Alloy "	IJAMS, Volume 4, no2(2013) pp 169-175
2	Ashutosh Dasare, Ganesh Deshmukh, Pratik Bhuyar, Khiteej Deshmukh, Aditya Barve	" Numerical Analysis of Pulse Tube Cryocooler"	IJIRSET, Vol. 2, Issue 3, March 2013.

Table ER-ME-22 Prizes and Awards for Students

Sr.No	Name of the Student	Event	Organized by	Prize	Year
1	Miss. Rujuta Sonawane , Miss Shweta Thosar	National Conference and Competition on Machine vision	GCOE Karad	1st	2010-11
2	Mr. Prasad Athalye Mr. Amit Gurav	Competition on CAD Design	ADCET Ashta	2nd	2010-11
3	Mr. Ramesh Dandage	Bisbuzz	COE Ambejogai	1st	2011-12
4	Mr. Ashish A. Apine	Cryogenic	SIT Yadrav	1st	2011-12

Table ER-ME-23: Inter Institute Event Details:

Year	Student(s) name, Event, venue	Prizes / Awards
2013-14	Team of 10 students (leader- Rohitkumar Rathod) participated in SAE Efficycle, October 2013, Chandigarh.	All India Rank 12
2012-13	Team of 8 students (leader- Swapnil Kale) participated in SAE Efficycle October 2013, Chandigarh.	All India Rank 3, Best Innovation Award (Rs. 95,000)
	Team of 25 students (leader- Akshay Dhiware) participated in SAE Supra September 2013, New Delhi.	All India Rank 24
2011-12	Team of 25 students (leader- Pravin Hawale) participated in SAE Baja February 2012, Indore.	All India Rank 45
	Team of 8 students (leader- Akshay Dhiware) participated in SAE Efficycle October 2012 , Chandigarh.	All India Rank 3 (Rs. 75,000)
2010-11	Team of 25 students (leader- Kiran Patil) participated in SAE Baja January 2011, Indore.	All India Rank 17

Special Achievements by Students:

- SAE Event:- Team Aaryans of the department stood first in Acceleration and Handling test and also secured 3rd Rank. The total prize money received was Rs. 75000/-. The main event was organized at University Institute of Engineering and Technology at Punjab University, Chandigarh on 14th to 16th Oct. 2011. The project was guided by Dr. K.H.Inamadar and Prof Amar Paranjape.

- Shri Prem Patabatti, FY (Mechanical) won silver medal at Inter University event held at Kolkata, India

- Third Year students
  - Sagar Mahajan - Winner of CURA (Expert) in VISION 2k12
    Winner of BuildSoft in VISION 2k12
  - Akshay Raut - Runner-up in FOREX the third edition
  - Mayur Barge - Winner of C competition at KIT, Kolhapur

- Second Year students
  - Ninad Bulbule – 1st Prize in Ingenious 2k12 at ADCET, Ashta
    Runner-up in Exalt at A. G. Patil Instituteof Technology, Solapur
  - Tejas Bamnote - Winner of CarteBlanche VISION 2k12
    Runner-up in FOREX the third edition
  - Kapil Vyas - Best Impulsive Performer, IMPULSE 2k11
  - Swapnil Shinde - Runner-up in EasyCampus at WCE, Sangli

- First Year students
  - Ashwin Nair - Winner of Reloaded Lanka and CBrain at SGGSIE&T, Nanded
    Consolation prize in IT programmability test at WCE, Sangli
  - Abhilash Khedkar - Runner-up in ITA-STUDIIS paper-presentation contest in VRTEX 2k11

2012-13

- Team “Aaryans” of WCE won 3 awards at National Level Competition “Efficycle 2012” organized by SAE India at Chandigarh.
- Won Mind- Spark “College Technical Championship” at COEP Pune
- Prem Potabatti, S.Y B.Tech Mechanical stood second in 3 meter Springboard Diving All India Inter University Diving Championships held from 3rd October to 7th October 2012 at Kolkata
- Ms. Prachi Rajgolikar & Ms. Tejaswini Mali presented a paper in national conference at DOT, SU, Kolhapur

20. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.

Table ER-ME-24 Details of Seminars Workshops Conducted

Sr.No	Module Description	Any other contributory Inst./Industry	Developed/ Organized by	Resource Persons	Target Audience
1.	"Mechatronics, control and solving engineering problems by mathematics"	---	WCE, Sangli	Dr. Shivharan	Faculties fromWCEand other colleges, U.G. and P.G. students of the Mechanical Engg., department
2.	Recent Trends in Manufacturing Technology RTMT-2012	---	WCE, Sangli	Dr. Ramesh Kumar Singh, Prof. Sachin Mastud, Prof. M.V.Kavade Mr. Rahul Thete, Mr. Nyayadhish, Mr.Nikhil Waze, Mr. Nikhil Padate	Faculties fromWCEand other colleges, U.G. and P.G. students of the Mechanical Engg., department
3.	Workshop on Aesthetics, Ergonomics and Creativity in Design	---	WCE, Sangli	Dr. S.P.Chavan, Prof. J.G.Gajendra-gadkar, Mr. Makarand Kale	Faculties fromWCEand other colleges, U.G. and P.G. students of the Mechanical Engg., department
4.	Recent Trends in Heat Exchangers RTHX-2012	VIT, Pune	VIT, Pune	Dr. B. S. Gawali WCE, Sangli. Experts from Different Industries	Faculties fromWCEand other colleges, U.G. and P.G. students of the Mechanical Engg., department
5.	Two week ISTE workshop on Introduction to Research	IIT Bombay, ISTE	WCE, Sangli	Professors from IIT, Bombay	Faculties fromWCEand other colleges, U.G. and P.G. students of the Mechanical Engg., department
6.	One Week workshop on Research in Production and Industrial Engineering	TEQIP-II	WCE, Sangli	Dr. Uday A. Dabade, Dr. S.S. Joshi, Dr. S. S. Mohite, Prof. M. T .Telsang, Prof. M.V.Kavade, Prof. V.D.Shinde, Prof. Sachin Mastud	Faculties from WCE and other colleges, U.G. and P.G. students of the Mechanical Engg., department

7.	Two Week ISTE Workshop on Engineering Thermodynamics	ISTE, IIT Bombay	WCE, Sangli	Professors from IIT, Bombay	Faculties fromWCEand other colleges, U.G. and P.G. students of the Mechanical Engg., department
8.	Research Methodology	---	WCE, Sangli	WCE Subject Experts	Faculties fromWCEand other colleges, U.G. and P.G. students of the Mechanical Engg., department
9.	Introduction to composite materials and Technology	IUCEE	IUCEE	IUCEE Experts	Mechanical Engg Students
10	Manufacturing Process Simulation	TEQIP-II	WCE, Sangli	Co-ordinator: Dr.U.A.Dabade	Faculties from WCE and other colleges, U.G. and P.G. students of the Mechanical Engg., department
11	Research Methodology	----	WCE, Sangli	Co-ordinator: Prof. Dr. B. S. Gawali along with Mr. A. T. Patil and Mr. Kiran Naragatti	Faculties fromWCEand other colleges, U.G. and P.G. students of the Mechanical Engg., department
12	Workshop on Fluid Mechanics	MHRD India	WCE, Sangli	Co-ordinator: Mr. P. A. Mane	Faculties from WCE and other colleges, U.G. and P.G. students of the Mechanical Engg., department
13	Recent trends in design and manufacturing technology 2014	TEQIP-II	WCE, Sangli	Co-ordinator: R M Chanmanwar	Faculties from WCE and other colleges, U.G. and P.G. students of the Mechanical Engg., department

21. Student Profile Course-wise:

Table ER-ME-25 Details of Student Profile

Name of the Course	**Applications Received**	**Selected**		**Pass percentage**	
		Male	**Female**	**Male**	**Female**
Mechanical Engg. (UG)	Centralized Admission	211	79	95	98
Mechanical Engg. (PG)	Govt of Maharashtra Through DTE	137	8	100	100

22. Diversity of Students

Table ER-ME-26 Details of Students Diversity

Name of the Course	% of students from the college	% of students from the state	% of students from other States	% of Students from other Countries
UG	0	99	1	0
PG	2	100	0	0

23. How many students have cleared Civil Services, Defense Services, NET, SLET, GATE and any other competitive examinations?

Table ER-ME-27 Details of Students Higher Studies

	2012-13	2011-12	2010-11
Number of students who opted for higher studies with valid qualifying scores/ranks (GATE Exam)	10	6	5

24. Student Progression

Table ER-ME-28 Details of Student Progression

Student Progression	Percentage against enrolled
UG to PG	12%
PG to MPhil	NA
PG to PhD	4%
PhD to Proposal	1%
Employment Details	
Campus selection	89%
Other than campus recruitment	9%
Entrepreneurs	2%

25. Diversity of Staff

Table ER-ME-29: Staff Diversity

Percentage of faculty who are graduates	
Of the same parent university	97 %
From Other Universities Within The State	3 %
From Other Universities From Other States	Nil

26. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period.

Table ER-ME-30 PhD Awarded details

Name of Faculty	Degree	Topic	University	Year
Dr. S. U. Sapkal	Ph. D.	Improved heuristics for manufacturing	Jadavpur University, Kolkata	2013

27. Present details about infrastructural facilities

a) **Library** : Departmental Library with over 500 books is available

b) Internet facilities for staff and students

Internet facilities to staff is provided via LAN connection and to students via Wi-Fi connectivity of 200+80 Mbps bandwidth.

c) **Total number of class rooms** UG: Three and PG: Three

d) **Class rooms with ICT facility** Three

e) Students' laboratories:

There are total 25 laboratories which are used for UG, PG & Ph.D programs. Following is the list of few labs

Table ER-ME-31 Details of some major Labs

Name of Lab	Area (sq. m)	Used For
IC Engine	160	T.Y. B. Tech
Fluid Mechanics	200	S.Y. B. Tech
CNC	120	UG, PG and PhD
Work Shop	1200	All Students
MQC	100	TY B. Tech
Theory Of Machines	50	SY B. Tech
Automobile Engg.	150	Final Year B. Tech
Mechatronics	105	Final Year B. Tech

f) Research Labs:

Three Research Labs are used extensively by UG, PG and PhD students:

1. Heat Power engineering
2. Design Engineering
3. Production Engineering

28. Number of students of the department getting financial assistance from College.

Table ER-ME-32 Financial Assistance for Students (Tuition fee)

	2014-15
UG	147
PG	64

- Apart from the above assistance, funding for Industrial Visits for each UG and PG class is provided by college under TEQIP – II funding.
  UG- 240 and PG 160 students
- Non Sponsored Non Gate qualified PG students get Stipend as Financial assistance from TEQIP – II funds : 21

29. Was any need assessment exercise undertaken before the development of new program(s)? If so, give the methodology.

No new program has been developed in the last 10 years

30. Does the department obtain feedback from

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?

Yes, the feedback is utilized to restructure the syllabus and design the curriculum

b. students on staff, curriculum as well as teaching-learning-evaluation and what is the response of the department to the same?

Yes, the feedback is used to suggest the faculty about changes to be made to teaching methodology and enhance the teaching-learning process.

c. Alumni and employers on the programmes and what is the response of the department to the same?

Yes, Alumni and Employer's survey is conducted regularly

A sample of few feedback forms is as below

Walchand College of Engineering, Sangli

Employer Survey form

Walchand College of Engineering, Sangli

(An Autonomous Institute)

Industry/Employer Feedback Survey

(To be filled by industry/employer)

Name of the Employing Organization					
Address of the Employing Organization					
Type of the Employing Organization	Public Sector/Govt. Organization ☐	Private Sector ☐	NGO (non-profit Organization ☐		
Type of Business	Manufacturing ☐	Production ☐	Research ☐	Consultancy ☐	Education ☐
	Any Other (Specify)				
Office Landline No.					
Fax No.					
Name of the Employee (alumni of WCE)					
Program of Study in WCE					

Programme Educational Objectives (PEOs) are the statements which define the capabilities and competencies a graduate will demonstrate after three to four years of his/her graduation and is a result of his/her studies during graduation, and the field training & professional experience obtained after graduation. The PEOs are:

Programme Educational Objectives
1. Demonstrate technical competency by applying knowledge to solve problems related to engineering issues.
2. Exhibit skills and appropriate attitude to succeed in their professional career.
3. Display thirst for emerging technologies and quest for innovation with concern to society and environment.

We request you to assess our graduates for the level of attainment of these objectives in their professional career by addressing the questionnaire given overleaf.

Thank you for taking time to fill up this survey. WCE appreciates your contribution. Page 1/2

(Employer Survey Report V 1.1)

(Please rate your judgment by putting "Tick mark" in the appropriate column of the following table Ignore the last column in the following table. It is only for office use.							
Skill	Excellent 5	V. Good 4	Good 3	Fair 2	Poor 1	Not Applicable	Mapping to
How well is his/her understanding of scientific principles and methods for solving engineering problems?							PEO1
How much precisely he/she can identify the problem and suggest asolution?							
How well does he/she apply scientific principles and engineering methods to solve the problems and evaluate the results?							
How much proficient is he/she with technology and software packages related to your field?							PEO1, PEO2
How much comfortable is he/she while working in a team?							PEO2
Where do you rate him/her for his/her writing skills?							
How much confident is he/she in demonstrating effective presentations skills orally?							
To what extent he/she has developed leadership and organizational skills?							
How much critically he/she can analyze the information?							PEO3
How well does he/she accept and learn the technological changes and go on developing new skills?							
How much ability he/she has to formulate creative & original ideas to tackle the problems?							
Does he/she have any patents filed/granted to his/her credit?	Title: file No. Remarks : Only Filed ☐ Granted: ☐						
Has he/she published any papers in journals or conferences	International Journal: ☐ National Journal: ☐ International Conference: ☐ National Conference ☐						
Any other noteworthy achievement by him/her	Give Details:						
What is your overall rating about his/her contribution to the progress of your organization?							Average of three PEOs
Additional remarks:							

Date: Signature with Seal

Thank you for taking time to fill up this survey. WCE appreciates your contribution. Page 2/2
(Employer Survey Report V 1.1)

Name of the Alumni					
Year of Graduation from WCE					
Program of Study in WCE					
Mobile No.					
Email Address					
Office Address					
Permanent Address					
Part A : Employment (Strike out non-applicable answer from Yes/No below)					
1		Are you currently employed (If the answer to this question is "**NO"**, please proceed to **Part B** of this survey document)	**Yes/No**		
	1.a	Name and address of the present employer			
	1.b	Your current designation			
	1.c	How long are you with this employer			
2		Are you self-employed and have entered into entrepreneurship?	**Yes/No**		
	2.a	What type of services you provide or what is the nature your product?			
3		No of years of total employment since graduation			
4		Type of Employer (Put a "Tick Mark" below)			
		Public Sector/Govt. Organization	Private Sector	NGO (non-profit Organization	
5		Type of employment area, in relation to your study at WCE: (Put a "Tick Mark" below)			
		Related to Core Discipline			
		Mainly	Partly	Not Related	
6		How well did WCE prepare you for your current job? (Grade on a scale of 5, 1 being poor, 5 as Excellent			
7		Have you obtained any additional qualification after graduation from WCE?	(If yes, give the details in part D of this survey report)		**Yes/No**
8		Do you have any patents to your credit?			**Yes/No**
9		Have you published any papers?			
10		Are you a member of any professional society/body			**Yes/No**
		Part B: Higher Education			

1		Are you pursuing higher education after your graduation? (If the answer to this question is "NO", please proceed to Part C of this survey document)	If yes, give the details in part D of this survey report)	**Yes/No**
2		Do you have any patents to your credit?		**Yes/No**
3		Have you published any papers?		**Yes/No**
4		Are you a member of any professional society/body		**Yes/No**
5		How well did WCE prepare you for higher education? (Grade on a scale of 5, 1 being poor, 5 as Excellent		

Part C : Development of Skill Set

(Please rate your judgment by putting "Tick mark" in the appropriate column of the following Table Ignore the last column in the following Table. It is only for office use.

Skill	Excellent 5	V. Good 4	Good 3	Fair 2	Poor 1	Not Applicable	Mapping to
How well is your understanding of scientific principles and methods for solving engineering problems?							PEO1
How much precisely you can identify the problem and suggest a solution?							
How well do you apply scientific principles and engineering methods to solve the problems and evaluate the results?							
How much proficient are you with technology and software packages related to your field?							PEO1, PEO2
How much comforTable are you while working as a team, may be in culturally diverse environment?							PEO2
Where do you rate yourself as far as effective writing skills are concerned?							
How much confident are you in demonstrating effective presentations skills orally?							

To what extent you have developed in you leadership and organizational skills?							
How much critically you can analyze the information?							PEO3
How well do you accept and learn the technological changes and go on developing new skills?							
How much ability you have to formulate creative & original ideas to tackle the problems?							
Overall rating about the contribution of WCE towards development of your career							Average of three PEOs

Part D: Details of Achievements

Q. A-7 Q. B-1	Have you obtained any additional qualification after graduation from WCE? Or are you pursuing higher education currently?	Degree	Institute
Q. A-8 Q. B-2	Do you have any patents to your credit?	Title: File No.	
Q. A-9 Q. B-3	Number of papers published in last five years?	International Journal: National Journal: International Conference: National Conference:	

31. List the distinguished alumni of the department (maximum 10)

Table ER-ME-33 Details of Alumni

Name of Alumni	Designation
Prof. A. V. Patki (1970)	Former Director, ISRO, Bangalore
N.M. Nadaf (1970)	Vice Admiral, Indian Navy
Dr. R.A.Katti (1971)	Former Head, Thermal Systems, ISRO, Bangalore
S.D. Jadhav (1975)	Joint Secretary, Dept. of Pollution Control, Maharashtra
Mrs. Leena Menon (1993)	Sr. Mgr., TISCO & Head HR Hindustan Unilever Ltd.
Dr. Usha Powale (1970)	Prof., Mechanical Engg Dept., IIT Mumbai
Mr. Deepak Sihakarpur (1995)	President, Computer Society of India, Director, Dimensions India Pvt. Ltd
Abhijeet Powar	CEO, Sakal Group of Newspapers
Hrishikesh Gadgil (2004)	Asst. Prof., IIT, Bombay

32. Give details of student enrichment programmes (special lectures / workshops / seminar) with external experts.

Table ER-ME-34 Details of Special / Guest Lectures

Sr. No	Event/Resource Person	Topic	Date
1	Prof. G.D. Bhide	Two Wheeler & Four Wheeler Automobile Systems	14 Jan, 2015
2	Mr. Amey Majgaonkar, Kirloskar Pneumatics Ltd.	Refrigeration and air conditioning/ HVAC system	3 Feb, 2015
3	Dr. S.G. Joshi, Ex Professor, WCE, Sangli	Creative Design	3 Feb, 2015
4	Mr. Arvind Paranje, Tata Power Co. Mumbai (Retd.)	Power System Protection	13 Mar, 2015
5	Mr. Vikramsinha Patil Beck off Automation Pvt. Ltd.	Product Marketing Strategies	7 Apr, 2014
6	Mr. Pradip Pandharbale	MPSC awareness program	4 Mar, 2014
7	Mohan Mardikar (Sr. Consultant), TCS Pune	Latest Trends In IT	4 Feb 2012
8	Mr. A.G. Deshpande, AG Group of Industries	Research in Manufacturing technology	Jan 2012
9	Mr. B.D.Kelkar	Product Design –case study	Feb 2012

10	Ninad Yadurkar , ACE Grades, Kolhapur	Ten Days Training session on Aptitude Test, Analytical Reasoning, Verbal	March 2012
11	Mr. Bipin Shewade	Computerized Wheel Balancing and alignment	April 2012
12	Neha Wagh (HR), TCS Pune	One Day workshop on Soft skill.	13 July 2012
13	Mr. Bipin Shewade	Variable valve timing engine	October 2012
14	Dr. S. V. Joshi ,VIT Pune	Energy Engineering	Oct 2010
15	Mr. A.Y.Mehedale	Energy Audit and Case studies	Oct 2010
16	Mr. Arvind Paranjape ,TATA Power	Entrepreneurship	2010
17	Mr. Deepak Tamras, SIMS Lonawala	Entrepreneurship	2009

33. List the teaching methods adopted by the faculty for different programmes.

Faculty members of Mechanical department implement a mixed blend of various teaching methods depending upon the content of the course for a particular class. These methods include:

- Chalk Talk
- Use of LCD,s
- Actual models explanation
- Think pair share
- GD's
- PPT
- NPTEL Video lectures
- Animations for concept explaining

34. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?

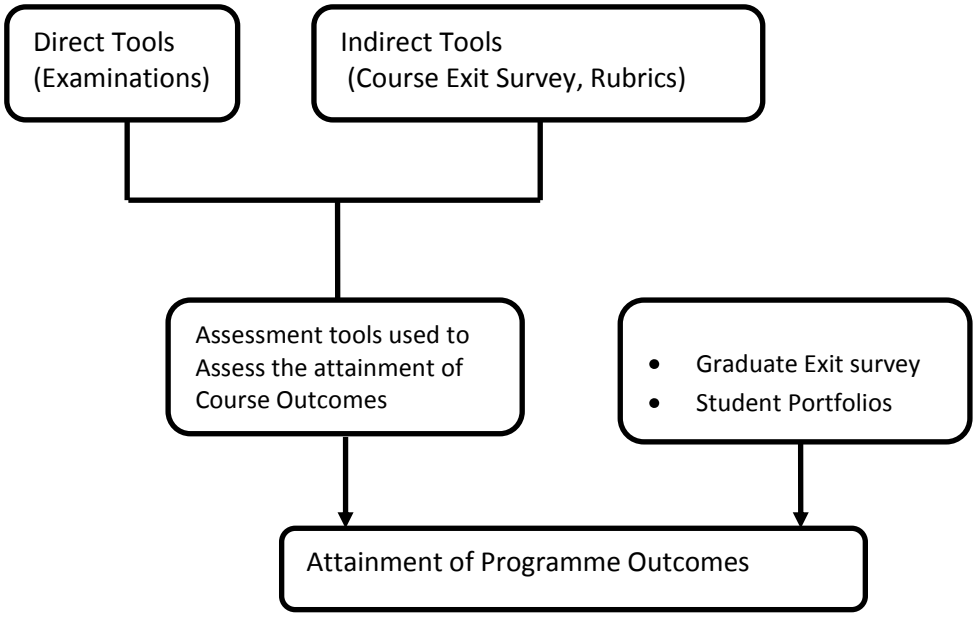


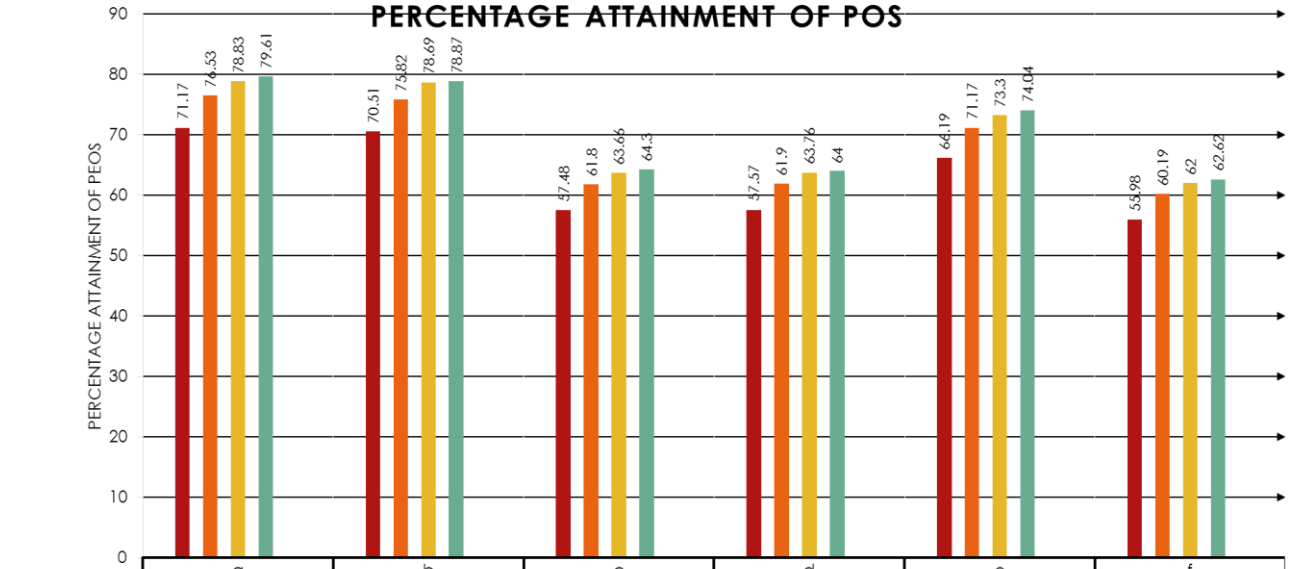
Table ER-ME-35 Attainment of all the POs.

GA	GA Description	PO mapped	Direct Tools		Indirect Tool			Remarks
			SEM Exam	Rubric	CES	GES	SPF	
1	Engineering Knowledge	a	√ 80%	-	√ 10%	√ 10%	-	
2	Problem Analysis	b	√ 80%	-	√ 10%	√ 10%	-	
3	Design/Development of Solutions	c	√ 80%	-	√ 10%	√ 10%	-	
4	Conduct investigations of complex problems	d	√ 80%	-	√ 10%	√ 10%		
5	Modern Tool Usage	h	-	√ 50%	√ 25%	√ 25%	-	

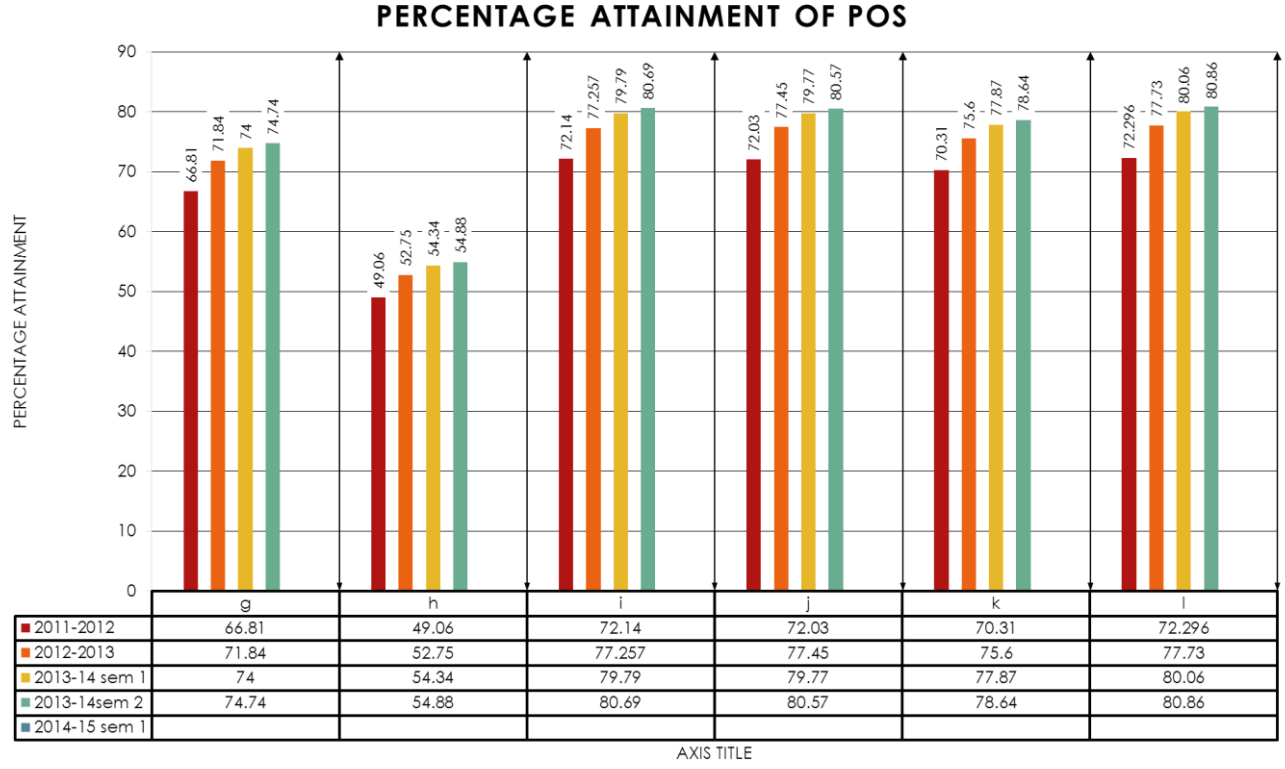
6	The Engineer and Society	k	-	-	√ 50%	√ 50%	-	
7	Environment and Sustainability	k	√ 50%	-	√ 25%	√ 25%	-	
8	Ethics	g		√ 50%		√ 50%	-	
9	Individual and Team Work:	e	-	√ 50%	√ 10%	√ 10%	√ 30%	
10	Communication	j	√ 20%	√ 60%		√ 10%	-	
11	Project management and Finance	l	√ 80%	-	√ 10%	√ 10%	-	
12	Life Long Learning	l	-	√ 50%	√ 10%	√ 10%	√ 30%	

The various tools used for assessing students for their attainment for a to k program outcomes include direct (examination, assignment, tutorials, quiz, etc) and indirect tools (course exit survey, graduate exit survey, etc) the weightage of each are indicated in the table above. The course teacher monitors the course outcomes through ISE, MSE and ESE. The skill related POs are assessed by applying rubrics. The indirect assessment tools (like course exit survey and graduate exit survey) are used to evaluate student satisfaction.

The entire data is then consolidated to find attainment of Pos using above policy.Following is the graphical presentation of attainment of PO's for 2013-14.



	a	b	c	d	e	f
2011-2012	71.17	70.51	57.48	57.57	66.19	55.98
2012-2013	76.53	75.82	61.8	61.9	71.17	60.19
2013-14 sem 1	78.83	78.69	63.66	63.76	73.3	62
2013-14sem 2	79.61	78.87	64.3	64	74.04	62.62
2014-15 sem 1						



	g	h	i	j	k	l
2011-2012	66.81	49.06	72.14	72.03	70.31	72.296
2012-2013	71.84	52.75	77.257	77.45	75.6	77.73
2013-14 sem 1	74	54.34	79.79	79.77	77.87	80.06
2013-14sem 2	74.74	54.88	80.69	80.57	78.64	80.86
2014-15 sem 1						

35. Highlight the participation of students and faculty in extension activities.

Students and faculty are actively involved in activities like NSS, Vertex, Vision, & competitions like BAHA (SAE) arranged by Professional chapters, ISHRAE, SAE, etc

36. Give details of "beyond syllabus scholarly activities" of the department.

Department of Mechanical Engineering faculty regularly conducts GATE coaching and guide for students as career guidance. Apart from this, Group Discussions, Soft-core training, Aptitude guidance is arranged centrally by Industry Institute Interaction and Placement Cell

37. State whether the programme/ department is accredited/ graded by other agencies. Give details.

UG program got NBA accreditation for 3 years in 2003 and 5 years in 2007. Applied for next cycle.
PG Design Engineering and Production Engineering programs got Accrediated for 3 years in 2012

38. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department

Strengths:

1. Well qualified and dedicated faculty with aptitude for research.
2. Very Good Infrastructure with state of the art labs
3. Good Placement record (around 90 % over the years)
4. Network of successful Alumni spread across the world.
5. Liasioning with Industries
6. Incoming students are of excellent grades

Weakness:

1. Low level consultancy and testing projects of appreciable amount, although small scale involvements are there in large numbers.
2. Marginal research publications in International Journals.
3. Old Civil infrastructure
4. Being an a Govt Aided Institute, limited financial resources.
5. Away from metro cities.

Challenges:

1. Overcoming the disadvantage of location.
2. Regular PG faculty recruitment

Oppurtunities:

1. Demand for new PG programs and specializations
2. Potential for collaboration with reputed foreign universities
3. Attract best Indian and overseas students
4. Rising demand from industry for consultancy and testing
5. Faculty and staff development through exposure to world class academic and research institutions

39. Future plans of the department.

Department proposes to execute following plans

- Increase liaison with Micro Small & Medium industries for carrying out live projects, ultimately beneficial to both Industries as well as to Institute through TIFAC, SPIA program.
- Signing MOU's with Danfoss India, John Deere Ltd for creating Research activities.
- Establish high end research labs and Workshop from Institute funds.

Evaluative Report of Electrical Department

1. **Name of the Department& its year of establishment: Department of Electrical Engineering**

   Electrical Engineering Department &Year of Establishment: - 1955.

2. **Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.):**

Table ER – EE – 1: Programme Details

Name of Program	Year of Establishment
UG (B. Tech in Electrical Engineering)	1955
PG (M. Tech in Power Systems and Control Systems)	1972
Ph.D. (Electrical Engineering)	1983
Diploma	1955

3. **Interdisciplinary courses and departments involved:**

Table ER – EE – 2: Interdisciplinary Courses

Sr. No.	Interdisciplinary courses		Name of the Department
	Course Code	Course	
1	Basic Electrical Engineering	2EE 101	Civil Engineering
2	Electrical/ Electronics Workshop	2EE 161	
3	Basic Electrical Engineering	2EE 102	Electronics Engineering
4	Electrical/ Electronics Workshop	2EE 161	
5	Basic Electrical Engineering	2EE 102	Mechanical Engineering
6	Electrical/ ElectronicsWorkshop	2EE 161	
7	Basic Electrical Engineering	2EE 102	Computer Science Engineering
8	Electrical/ Electronics Workshop	2EE 161	
9	Basic Electrical Engineering	2EE 102	Information Technology
10	Electrical/ Electronics Workshop	2EE 161	

			Engineering
11	Power Generation & Economics	2IEE201	All Departments
12	Electrical Machines	2IEE211	All Departments

4. Annual/ semester/choice based credit system: Semester

5. Participation of the department in the courses offered by other departments:

Table ER – EE – 3: Details of UG Courses OfferedBy Other Department

Sr. No.	Courses Offered	Name of the Department	Year	Semester
1	2CH101 Engineering Chemistry	Chemistry	First Year	I
2	2MA101 Engineering Mathematics I	Mathematics	First Year	I
3	2MA102 Engineering Mathematics II		First Year	II
4	2MA203 Applied Mathematics III		Second Year	I
5	2AM 101 Engineering Mechanics	Mechanical	First Year	I
6	2ME102 Basic Mechanical Engineering		First Year	II
7	2ME103 Engineering Graphics		First Year	I
8	2CE101 Basic Civil Engineering	Civil	First Year	II
9	2HS102 Environmental Science	Humanities	First Year	II
10	2HS101 Communication Skill	Humanities	First Year	I
11	2PH101 Engineering Physics	Humanities	First Year	II
12	2EN102 Basic Electronics Engineering	Electronics	First Year	II
13	2CS102 Computer Programming	Computer Science	First Year	II
14	1IC402 Industrial Management	Mechanical	Final Year	I
15	1IC401 Engineering Economics and Business Ethics	Mechanical	Final Year	II

6. Number of teaching posts sanctioned and filled (Professors/Associate Professors/ Asst. Professors)

Table ER – EE – 4: Teaching Post Details

	Sanctioned	Filled
Professors	02	01
Associate Professors	04	04
Asst. Professors	08	07
Asst. Professors/ Pro-Term Lecturers(Contractual)	--	06

7. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)

Table ER – EE – 5: Faculty Profile

(Students column indicates **number of Ph.D. Students guided for the last 4 years)**

Name	Qualification	Desig_ nation	Specia_ lization	Years of Experience Teaching/ Professional	Students
Dr. Anil P. Vaidya	B.E. Electrical - Shivaji University Kolhapur(1983), M.E. Electrical - Shivaji University Kolhapur(1993), Ph.D. - High Voltage Engineering, IISc, Bangalore (2005)	Professor	Power Systems	30/1.5	Submitted: 01 Ongoing: 02

Name	Qualification	Desig_ nation	Specia_ lization	Years of Experience Teaching/ Professional	Students
Dr.D.R.Patil	B.E. Electrical-Shivaji University Kolhapur (1980) M.E. Electrical-Shivaji University Kolhapur (1985) Ph.D. -Shivaji University Kolhapur (2012)	Associate Professor	Control Systems	33/00	---
Mr.VanamaneShankar S.	B.E. Electrical-Karnataka University(1984) M.E. Electrical Shivaji University Kolhapur (1991)	Associate Professor	Power Systems	30/00	---
Dr.D.S.More	B.E. Electrical-Shivaji University Kolhapur (1986) M.E.Electrical Shivaji University Kolhapur (1997) Ph.D.- I.I.T. Bombay (2010)	Associate Professor	Control Systems	25/04	Ongoing: 01
Mr.A.B.Patil	B.E.Electronics- Shivaji University Kolhapur (1993) M.E.Electrical-Shivaji University Kolhapur (1999)	Associate Professor	Control Systems	20/00	---

Name	Qualification	Desig_ nation	Specia_ lization	Years of Experience Teaching/ Professional	Students
Mr.N.V.Patel	B.E. Electrical- Shivaji University Kolhapur(1995) M.Tech Electrical- IIT Kharagpur (2001)	Associate Professor	Control Systems	20/00	---
Dr.M.M.Waware	B.E. Electrical- Shivaji University Kolhapur(1999) M.E.Electrical- Shivaji University Kolhapur (2003) Ph.D.- IITRoorkee (2012)	Assistant Professor	Control Systems	13/00	---
Mrs.S.L.Shaikh	B.E. Electrical- Shivaji University Kolhapur(1993) M. E. Electrical Shivaji University Kolhapur (1998)	Assistant Professor	Power Systems	10/08	---
Mr.R.P.Hasabe	B.E. Electrical- Shivaji University Kolhapur(2001) M. E. Electrical Shivaji University Kolhapur (2006)	Assistant Professor	Power Systems	12/00	---
Mrs. Seema P Diwan	B.E. Electrical-GECA-BAMU (1997) M.Tech. Electrical Shivaji University Kolhapur (2009)	Assistant Professor	Power Systems	11/02	---

Name	Qualification	Desig_ nation	Specia_ lization	Years of Experience Teaching/ Professional	Students
Mr.S.S.Karvekar	B.E. Electronics- Shivaji University Kolhapur(2010) M.Tech. Electrical- Shivaji University Kolhapur (2013)	Assistant Professor	Control Systems	02/01	---
Mr.V.P.Mohale	B.E. Electrical- Shivaji University Kolhapur (2011) M.E. Electrical- Shivaji University Kolhapur (2013)	Assistant Professor	Power Systems	02/00	---
Mr.V.D.Dabade	B. Tech. Electrical- Shivaji University Kolhapur (2013)	Pro- term Lecturer	Electrica l Enginee ring	02/00	---
Miss.F.H.Thakker	B.E. Instrumentation - Shivaji University Kolhapur (2013)	Pro- term Lecturer	Instrum entation	02/00	---
Miss.M.M.Havag ondi	B.Tech Electrical- Shivaji University Kolhapur (2012) M. Tech. Electrical- Shivaji University Kolhapur (2014)	Pro- term Lecturer	Control Systems	01/00	---
Mr. K.S. Yeole	B.E. Electrical- Shivaji University Kolhapur (2010) M.Tech Electrical- IIT Roorkee (2013)	Assistant Professor	Electric Drives and Power Electroni cs	01/00	---

Name	Qualification	Desig_ nation	Specia_ lization	Years of Experience Teaching/ Professional	Students
Miss. S.A. Gavali	B. Tech. Electrical- Shivaji University Kolhapur (2014)	Pro- term Lecturer	Electrical Engineering	01/00	---
Miss. A.S. Borkar	B. Tech. Electrical- Shivaji University Kolhapur (2014)	Pro- term Lecturer	Electrical Engineering	01/00	---

8. Percentage of classes taken by temporary faculty – programme-wise information

Table ER – EE – 6: Percentage of classes

Year	Term	No. of Temporary Faculties	Lectures Delivered %	Practical classes Handled %
2011-12	I	3	24	27
	II	3	21	25
2012-13	I	5	14	57
	II	8	42	56
2013-14	I	7	30	52
	II	6	33	55
2014-15	I	6	22	59
	II	6	23	55

* All PG classes are handled by regular faculty.

9. Programme-wise Student Teacher Ratio

Table ER – EE – 7: Programme-wise Student Teacher Ratio (UG)

Year	No. of Students	No. ofTeacher	Student Teacher Ratio
2011-12	242	12	20.16
2012-13	228	14	16.28
2013-14	225	14	16.07
2014-15	227	14	16.21

Table ER – EE – 8: Programme-wise Student Teacher Ratio (PG)

Year	No. of Students	No. ofTeacher	Student Teacher Ratio
2011-12	**35**	10	3.5
2012-13	48	10	4.8
2013-14	60	10	6.0
2014-15	73	10	7.3

10. Number of academic support staff (technical) and administrative staff: sanctioned and filled

Table ER – EE – 9: Support Staff Details

Staff	Sanctioned	Filled		
		Regular	Contractual	Total
Academic Support (Technical)	NA	5	3	8
Administrative	NA	6	3	9

11. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise.

Table ER – EE – 10: Funded R & D Projects

Sr. No.	Name of Project	Year		Funding Agency	Grant Received (Rs.in Lakhs)	No. of Faculty Involved
		Sanction	Comple_tion			
1	Modernization of Power Electronics and Industrial Drives and Control Systems Lab	2011-12	2011-12	AICTE (MODROBS)	6.5	02
2	Modernization of Power Quality Harmonics and FACTS Laboratory	2012-13	2012-13	AICTE (MODROBS)	19.98	02
3	Performance Comparison of Wavelet Neural and Time domain reference current strategies for Power Quality Improvement using distribution static compensator (DSTATCOM) based VSI inverter in dynamic and steady loading condition	2012-13	2015-16	AICTE (RPS)	14.4	01
4	Expenses for IIPC Activities	2013-14	2014-15	AICTE (IIPC)	6.98	01
5	Development of new machine topology for low speed power application and development of prototype rooftop wind power generation systems	2212-13	2015-16	AICTE (RPS)	15.30	01
6	Advance Power Electronics and Drives	2013-14	2013-14	AICTE (FDP)	4.5	06

12. Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received

Department has not received grants from the above agencies during the assessment period.

13. Research facility / center with

- state recognition - Ph.D. research center of Shivaji University, Kolhapur.
- national recognition - QIP, Ph.D. research center since 2012.
- international recognition - Nil

Equipments used for research:

1. Inverted Pendulum with cart
2. Twin Rotor MIMO (Helicopter model)
3. Transmission Line simulator

14. Publications:

*** Number of papers published in peer reviewed journals (national /international)**

Details of publications are attached in Annexure A of SSR

Table ER – EE – 11: Faculty publications

Sr. No.	Name of Faculty	International Journals	International Conference	National Journals	National Conference
1	Prof.Dr.A.P.Vaidya	12	5	1	3
2	Dr.D.R.Patil	9	23	-	2
3	Prof.S.S.Vanamane	4	1	-	-
4	Dr.D.S.More	3	5	1	2
5	Prof.A.B.Patil	3	5	1	1
6	Prof.N.V.Patel	2	2	-	1
7	Mrs.S.L.Shaikh	3	-	-	2

8	Dr.M.M.Waware	6	6	-	1
9	Mr.R.P.Hasabe	4	3	1	1
10	Mrs.S.P.Diwan	3	5	-	1
11	Mr.S.S.Karvekar	-	5	-	1
12	Mr.V.P.Mohale	1	1	-	1
Total		**50**	**61**	**04**	**16**

* **Monographs:** Nil
* **Chapter(s) in Books**

Table ER – EE – 12: Chapter(s) Details

Sr. No.	Author(s)	Year	Title	Complete Reference of Book (Publisher, Edition, Page No.)
1	Dr. D.R.Patil and Dipti Tamboli	2013-14	Chapter 27 Performance analysis of Different current controllers for active power filter pp 249 – 258	Proceeding of International Conference on information, Telecommunication and computing. Lecture notes on Electrical Engg. At Springer Scientific business media, New York 2013

* **Editing Books** - Nil

* **Books with ISBN numbers with details of publishers** - Nil

* **Number listed in International Database (For *e.g.* Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)** - Nil

* **Citation Index – range / average** - Nil

* **SNIP** - Nil

* **SJR** - Nil

* **Impact factor – range / average** - Nil

* **h-index**

Table ER – EE – 13: h-Index Details

Name of Faculty	Citation	h-index	I10-index
Prof.Dr.A.P.Vaidya	13	02	-
Dr.D.S.More	52	04	03
Dr.M.M.Waware	14	02	-

15. Details of patents and income generated: Nil

16. Areas of consultancy and income generated

Table ER – EE – 14: Consultancy Details

Sr. No.	Name of Company	Consultancy activity	Coordinator	Year	IRG (Rs. in Lakhs)
1	Pragati Engineering Belgaum Private Ltd., Belgaum	Power Quality audit	Mrs. Seema P Diwan	2015	0.05
2	Local Industries & State Electricity Board	Meter Calibration, Earth Resistance Measurement and other testing work	H.O.D. Electrical	2011-12	0.50
				2012-13	1.47
				2013-14	1.04
				2014-15	0.74

17. Faculty recharging strategies

i) Staff development programmes, short term courses (FDP)
ii) Refresher courses
iii) Workshop Organized and Attended by faculty
iv) Deputation for conferences

18. Student Projects

- percentage of students who have done in-house projects including inter-departmental

Table ER – EE – 15: House Project Details

Sr. No.	Year	% of In-House Project Students	
		UG	PG
1	2011-12	100	96
2	2012-13	93	100
3	2013-14	100	92
4	2014-15	96	94

- percentage of students doing projects in collaboration with industries / institutes

Table ER – EE – 16: Industry Project Details

Sr. No.	Year	% of In Industry Project Students	
		UG	PG
1	2011-12	0	4
2	2012-13	7	0
3	2013-14	0	8
4	2014-15	4	6

* Percentage of UG Projects carried out at industry is expected to increase in coming years with institute new policy of keeping 8th semester free for students to pursue only project work.

19. Awards / recognitions received at the national and international level by

- **Faculty**

Table ER – EE – 17: Award/Recognitions Details

Sr. No.	Name of faculty	Prize/Award received	Organization/Institute	Year
1	Dr. Anil P. Vaidya	Best Teacher Award	Walchand College of Engineering, Sangli	2012
2	Dr. D. S. More	Best research paper award	National Power Electronics Conference (NPEC-2011), heldat Bengal Engineering and Science university shibpur, Howrah India, December 2011.	2011
3	Dr. M. M. Waware	Travel Grant Award	DST,UGC	2010
4	Mr.N. V. Patel	Ideal Teacher Award	Walchand College of Engineering, Sangli	2003
5	Dr. Anil P. Vaidya	Ideal Teacher Award	Walchand College of Engineering, Sangli	2002
6	Dr.D.S.More	Ideal Teacher Award	Walchand College of Engineering, Sangli	2001

- **Doctoral / post-doctoral fellows:**

Table ER – EE – 18: Doctoral / post-doctoral fellows

Sr. No.	Name of Faculty	Ph.D. Registration	States
1	Mr.R.D.Thombare	July, 2013 (QIP-Ph.D.) (Shivaji University, Kolhapur)	Ongoing
2	Mr.A.B.Patil	Dec 2012 (SRTM, Nanded University)	Ongoing
3	Mr.R.P.Hasabe	July, 2010 (Shivaji University, Kolhapur)	Ongoing
4	Mr.N.V.Patel	Jan, 2009 (Sant Gadge Baba Amravati University)	Ongoing

- **Student's award:** N

20. Seminars/ Conferences/Workshops organized and the source of funding (National / International) with details of outstanding participants, if any.

Table ER – EE – 19: Workshops & Training Programs

Sr. No.	Name of Course	No. of Week	Sponsors	Duration	Coordinator
1	Recent Trends Power Electronics and Power Quality (Under TEQIP)	One week training programme	NPIU	17-21, Dec 2012	Dr. M. M. Waware
2	Advance Control Systems for PG Control Systems Students	Two days seminar	WCE, Sangli	May 2012	Mr. A. B. Patil
3	PLC Automation (Under TEQIP)	Three days training programme	NPIU	18- 20, Jan 2013	Dr. M. M. Waware
4	DSP Processor	Two days training programme	Edgate Technologies Bangalore	Oct 2013	Mr. A. B. Patil
5	Advanced Power Electronics and Drives	Two week training programme	AICTE	9- 20, Dec 2013	Dr. M. M. Waware
6	Advance Embedded Control Systems for PG Control Systems Students	Two days seminar	WCE, Sangli	March 2013	Mr. A. B. Patil
7	Adaptive Control Systems for PG control systems Students (Under TEQIP)	Two days seminar	NPIU	April 2014	Mr. A. B. Patil
8	Design of CSTR Control Systems(Under TEQIP)	Three days Industrial training programme	VI Microprocessor Chennai	Aug 2014	Mr. A. B. Patil

Sr. No.	Name of Course	No. of Week	Sponsors	Duration	Coordinator
9	DSP and Advance Processor (Under TEQIP)	Two days training programme	Edgate Technologies Bangalore	Oct 2014	Mr. A. B. Patil
10	Control Systems	Two week faculty development programme	IIT Kharagpur-ISTE/AICTE	2-12, Dec 2014	Mr. A. B. Patil
11	Transformer Design and Testing during	One week students workshop	NKenin Transformer Latur	2- 8, Jan 2015	Mr. V. P. Mohale
12	Automation workshop PLC , HMI, VFD, TRANSMITTER VALVES and SCADA	Five days workshop	Educate to automate, Pune	Feb 2014	Prof. Dr. A. P. Vaidya
13	TLS-08 and NRDE (Under TEQIP)	One week workshop	NPIU	8 -12, Aug 2014	Prof. Dr. A. P. Vaidya

21. Student profile course-wise:

Table ER – EE – 20: Course-wise Student Profile

Name of the Course (refer question no. 2)	Year	Applications Received	Selected		Pass percentage	
			Male	Female	Male	Female
B.Tech (Electrical)	2014-15	All admissions are carried By online by State govt. agency- (EAMCET) + Management quota	45	19	--	--
	2013-14		48	16	93.75	93.75
	2012-13		45	18	95.55	100
	2011-12		48	17	93.75	94.11
M.Tech (Control Systems) & (Power Systems)	2014-15	PGCET conducted at state level + GATE examination conducted at National Level + Sponsored quota	30	6	--	--
	2013-14		30	6	100	100
	2012-13		15	9	100	100
	2011-12		19	5	100	100

22. Diversity of Students

Table ER – EE – 21: Students Diversity

Name of the Course (refer question no. 2)	Year	% of students from the college	% of students from the state	% of students from other States	% of students from other countries
Department of Electrical Engineering	2011-12	NA	100	--	--
	2012-13	NA	100	--	--
	2013-14	NA	100	--	--
	2014-15	NA	100	--	--

23. How many students have cleared Civil Services, Defense Services, NET, SLET, GATE and any other competitive examinations?

Table ER – EE – 22: Competitive Exam Details

Name of the Examination	2011-12	2012-13	2013-14	2014-15
GRE	04	02	--	--
TOFEL/IELTS	04	02	--	--
GMAT	--	--	--	--
GATE	--	--	06	08
CAT	--	--	--	01
OTHERS	04	--	03	--
Total	**12**	**04**	**09**	**09**

24. Student progression

Table ER – EE – 23: Student progression

Student progression	Percentage against enrolled
UG to PG	30
PG to M.Phil.	--
P.G to PhD	3
Ph.D. to Post-Doctoral	--

Employed

- **Campus Selection**

Table ER – EE – 24: Details of Campus Placement

Year	No. of Students Placed	
	UG	PG
2011-12	70	1
2012-13	71	3
2013-14	43	1
2014-15	55	12

- **Other than campus recruitment Entrepreneurs**

Table ER – EE – 25: Other than Campus Recruitment Details

Year	No. of Students Placed
2011-12	10
2012-13	17
2013-14	22
2014-15	03

- **Entrepreneurs:**
  Total No. of student: - 10

25. Diversity of staff

Table ER – EE – 26: Staff Diversity

Percentage of faculty who are graduates	
of the same parent university	89 %
from other universities within the State	6 %
from other universities from other States	6 %

26. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period.

Following faculty members are awarded by Ph.D. during the assessment Period

- Dr.D.S.More awarded PhD in the year 2011, from I.I.T. Bombay, Mumbai.
- Dr.M.M.Waware awarded PhD in the year2012, from I.I.T. Roorkee.
- Dr.D.R.Patil awarded PhD in the year 2012, from Shivaji University Kolhapur.

27. Present details about infrastructural facilities

a) Library: --

b) Internet facilities for staff and students: Yes

* Each staffand students has following amenities:

- Campus is Wi-Fi Enabled.
- Department Computer lab with 70 computer with 200+80 Mbps speed internet facilities for 24 x 7

c) Total number of class rooms: 6

i) Separate rooms are available for taking core/elective subjects for both UG and PG programmes.

ii) Seminar hall is provided, which is being shared among departments to conduct seminar and guest lectures.

iii) Tutorials are conducted with a batch size of 12-15 students in separate tutorial rooms and classrooms.

In addition, whenever the students are having laboratory classes their class rooms are utilized for conducting tutorial classes.

d) Class rooms with ICT facility: **Yes**

Table ER – EE – 27: Class Room Details

Room Description	Usage	Shared / Exclusive	Capacity Space Sqm./ Students	Rooms Equipped with PC, Internet, Book rack, meeting space…
Class Room No. 9	Class Room for 2nd year, 3rd year	Exclusive for UG Electrical	80 sq. m	Black Board, LCD, Internet Connectivity, Portable Audio System,Fans, Tubes, Benches, Wired and wireless internet connectivity
Class Room No. 10	Class Room for 3rd year & B. Tech	Exclusive for UG Electrical	80 sq. m	Black Board, LCD, Internet Connectivity, Portable Audio System,Fans, Tubes, Benches, Wired and wireless internet connectivity
Tutorial Room 1	Tutorials of S.Y. and T.Y.B. Tech Class	Exclusive for UG Electrical	20 sq. m	LCD, Black Board, ,Fans, Tubes, Curtains, Benches,
Tutorial Room 2	Tutorials of Final year B. Tech and EESA Activities	Exclusive for UG Electrical	20 sq. m	Black Board, ,Fans, Tubes, Benches,
M. Tech Class Room	PG Class Room + Seminars	Exclusive for PG and Electrical	45 sq. m	Black Board, LCD, Internet Connectivity, Portable Audio System,Fans, Tubes, Benches, internet connectivity

M. Tech Class Room -	Class Room	Exclusive for PG Electrical	45 sq. m	White Board, LCD, Internet Connectivity, Portable Audio System,Fans, Tubes, Curtains, Benches, internet connectivity

Students' laboratories: 12

Table ER – EE – 28: Laboratory Details

Lab. Descri_ption in the Curriculum	Exclusive use / Shared	Space Sq.m Number of Students	Number of Experiments	Quality of Instruments	Laboratory Manuals
Electrical Machine Lab	Exclusive	274.5 sq.m, 40 students	16/20 Experiments	In working condition	Lab Manuals are available in Individual Lab
Power Systems	Exclusive	90sq.m, 20 students	8/10 Experiments	In working condition	Lab Manuals are available in Individual Lab
Control Systems	Exclusive	60sq.m, 20 students	8/10 Experiments	In working condition	Lab Manuals are available in Individual Lab
Power Quality and Harmonics	Exclusive	30sq.m, 15 students	8/10 Experiments	In working condition	Lab Manuals are available in Individual Lab
Instrumentation &Process Control Lab	Exclusive	60 sq.m, 20 students	8/10 Experiments	In working condition	Lab Manuals are available in Individual Lab
Power Electronics and Drives Lab	Exclusive	125sq.m, 15 students	8/10 Experiments	In working condition	Lab Manuals are available in Individual Lab
Microprocessor and Microcontroller Lab	Exclusive	45 sq.m, 15 students	8/10 Experiments	In working condition	Lab Manuals are available in Individual Lab
Computer Lab	Shared with PG	120 sq.m, 30 students	8/10 Experiments	In working condition	Latest computers with softwares and

					internet connection
Electronics & Electrical Circuit Lab	Exclusive	60 sq.m, 20 students	8/10 Experiments	In working condition	Lab Manuals are available in Individual Lab
Basic Electrical Engineering Lab I	Exclusive	60 sq.m, 20 students	8/10 Experiments	In working condition	Lab Manuals are available in Individual Lab
Basic Electrical Engineering Lab II	Exclusive	60 sq.m, 20 students	8/10 Experiments	In working condition	Lab Manuals are available in Individual Lab
Central Computing Facility	Shared	70 sq.m, 20 students	8/10 Experiments	In working condition	Latest computers with softwares and internet connection

e) Research laboratories:2

(i) Control Systems Lab
(ii) Power Quality and Harmonics Lab

28. Number of students of the department getting financial assistance from College.

- Funding for Industrial Visit of each UG and PG class is provided by the college through TEQIP-II Funding. Total number of students 240.
- Non sponsored non gate PG students will avail financial teaching assistantship from college through TEQIP-II Funding.Total number of students 15.
- Registration fees of conference paper of students is provided by the college through TEQIP-II Funding. Total number of students 80.

29. Was any need assessment exercise undertaken before the development of new program(s)? If so, give the methodology.

- NA

30. Does the department obtain feedback from

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?

Yes, Faculty with respected specialization checks the current syllabus and suggests thechanges to be made and these are discussed in BOS Meeting and is modified accordingly.

b. Students on staff, curriculum as well as teaching-learning-evaluation and what is the response of the department to the same?

Yes, Feedback from students on faculty is used to know the strengths and weaknesses of a faculty member.

Feedback from students on curriculum and teaching learning process is used to improve the curriculum and teaching learning process respectively.

c. Alumni and employers on the programmes and what is the response of the department to the same?

Department gives first preference to suggestions made by the industry employers and alumni. Hence department fills the gap between theory and practical orientation to the students.

31. List the distinguished alumni of the department (maximum 10)

Table ER – EE – 29: Alumni List

Sr.No.	Name of Alumni	Designation	Name of Company
1	Mr. Alhad Apte (1978)	Chairman	NTRO, New Delhi
2	Mr. Sabarad Mahantesh	Dy.V.P.	SBICAP, Securities Ltd.
3	Mr. Chaitanya Anand Talwalkar	Senior V.P.	AXIS Bank Central Office, Worli.
4	/Arpita Majumdar	Cofounder & CDO	Kyazoonga.
5	Mr. Niranjan Bhagwan Jamenis	Project Manager	Western HDZA Erectors

6	Mr. V. S. Prabhu	Vice Chairman	BSES, Mumbai
7	Mr. Aniket Awati	CEO	Raining Clouds
8	Mr. M.G.Shinde	Superintending Engineer	MSEDCL
9	Mr. Jayant Kulkarni	Superintending Engineer	MSLDC
10	Mr. R.D.Chavan	Superintending Engineer	MSEDCL
11	Mr.R.P.Gholap	Chief Engineer	MSEDCL

32. Give details of student enrichment programmes (special lectures / workshops / seminar) with external experts.

Table ER – EE – 30: Entrepreneurship Guest Lecturers

Resource Person	**Organization/Date**	**Topic Covered**
Dr. T. K. Basu	IIT, Kharagpur, 21st December 2011	"Power generation methods, their advantages and disadvantages"
Prof. A. U. Digraskar,	CPA. NPIU 8th March 2012	TEQIP project guidance
Dr. Ashok Deshpande	Ex-Professor, COEP, Pune. 20th March 2012	Fuzzy Application
Mr.Ramesh Suryawanshi	VECO Engineering 29th March 2012	"HVDC systems"
Mr. Mukund Deshpande	MSEDCL, Sangli 31st March 2012	"HT & LT Distribution system construction"
Prof. S. N. Kore	WCE, Sangli	Timing Diagrams of 8085 for S.Y.B. Tech (Electrical)
Shri M. J. Deshpande	MSEDCL, Sangli	Electrical Safety
Shri M. J. Deshpande	MSEDCL, Sangli	LT and HT Line construction
Shri S. Kaware	HVDC Padghe	HVDC
Shri Arvind Paranjape	Assistant General Manager, TATA Power Ltd.(Retd)	Types of power generating plants, Thermal power plant in details, Role of Electrical Engineers

Resource Person	Organization/Date	Topic Covered
Dr.R.Nagaraja	PRDC, Bangalore.	GRID Collapse

33. List the teaching methods adopted by the faculty for different programmes.

Table ER – EE – 31: Teaching Method Details

Sr. No.	Particular
1	Effective Black Board teaching
2	Expert Lectures / Seminars on important topic
3	Tutorial session on subject
4	Active and collaborative teaching
5	Usage of LCD projectors
6	Power point/Educational Animations presentation
7	NPTEL e-learning Material for teaching
8	Audio-video lectures
9	Tutorial classes
10	Case studies

34. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?

A. Attainment of Programme Educational Objectives

Graduates of Electrical Engineering programme after a span of three to four years of their graduation will

PEO1:Demonstrate technical competency by applying knowledge to solve problems related to Electrical Engineering issues.

Articulation:

Graduates will become competent in Electrical Engineering profession

- by applying knowledge of Mathematics, Basic & Engineering Sciences and Engineering, Control systems, Power systems and electrical machines to provide engineering solutions.
- as a result of academic and / or professional experience

PEO2: Exhibit skills and appropriate attitude to succeed in their professional career.

Articulation:

Graduates will be successful in their professional career by

- Exhibiting teamwork spirit and leadership qualities by maintaining harmony
- Employing effective written , oral and graphical communication skills
- Practicing professional and ethical principals

PEO3: Display thirst for emerging technologies and quest for innovation with concern to society and environment.

Articulation:

Graduates will exhibit

- Self-learning attitude by employing state-of-the-art technologies
- Innovative approach while executing their professional tasks
- Social and sustainability principles in their profession.

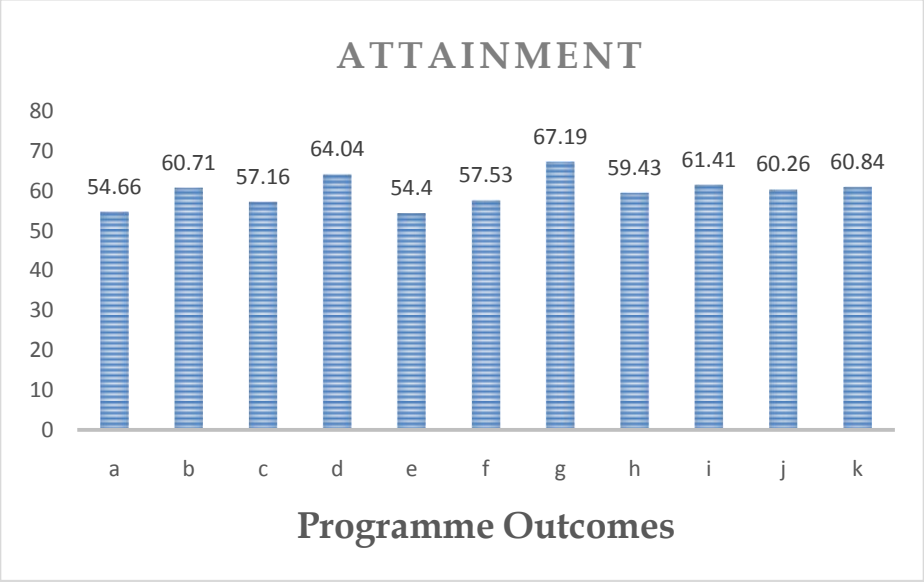
B. Attainment of Programme Outcomes:

The students after successfully completing this program will have:

a) an ability to apply knowledge of mathematics, science and engineering
b) an ability to design and conduct experiments, as well as to analyze and interpret data
c) an ability to design a system, component or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health & safety, manufacturability and sustainability
d) an ability to function on multidisciplinary teams
e) an ability to identify, formulate and solve engineering problems
f) an understanding of professional and ethical responsibility
g) an ability to communicate effectively
h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context
i) a recognition of the need for, and an ability to engage in life-long learning
j) a knowledge of contemporary issues
k) an ability to use the techniques, skills and modern engineering tools necessary for engineering practice

C. Attainment of POs for the Batch 2013-14 is shown below

Attainment of Pos



35. Highlight the participation of students and faculty in extension activities.

1. Student meets

2. NSS: -
   Blood Donation Camp, Eye Checking Camp those activity conducted under NSS.

3. NAB: -
   "The vision for the future" sector education by Pravin Balaji Kalwale S.Y. B.Tech Electrical.

4. Seminars: -

Table ER – EE – 32: Seminar Organized By Electrical Department

Resource Person	Organization/Date	Topic Covered
Dr. T. K. Basu	IIT, Kharagpur, 21st December 2011	"Power generation methods, their advantages and disadvantages"

Resource Person	Organization/Date	Topic Covered
Prof. A. U. Digraskar,	CPA. NPIU 8th March 2012	TEQIP project guidance
Dr. Ashok Deshpande	Ex-Professor, COEP, Pune. 20th March 2012	Fuzzy Application
Mr.Ramesh Suryawanshi	VECO Engineering 29th March 2012	"HVDC systems"
Mr. Mukund Deshpande	MSEDCL, Sangli 31st March 2012	"HT & LT Distribution system construction"
Prof. S. N. Kore	WCE, Sangli	Timing Diagrams of 8085 for S.Y.B. Tech (Electrical)
Shri M. J. Deshpande	MSEDCL, Sangli	Electrical Safety
Shri M. J. Deshpande	MSEDCL, Sangli	LT and HT Line construction
Shri S. Kaware	HVDC Padghe	HVDC
Shri Arvind Paranjape	Assistant General Manager, TATA Power Ltd.(Retd)	Types of power generating plants, Thermal power plant in details, Role of Electrical Engineers
Dr.R.Nagaraja	PRDC, Bangalore.	GRID Collapse

5. Group discussions: -
   i. Soft Skill and personality development training May 2014.
   ii. Club Services: Under EESA conducts weekly club services which includes Circuit designing, simulations, programming, communication skill development, Quiz, aptitude test

6. Workshops: -

Table ER – EE – 33: Workshops Organized By Electrical Department

Sr. No.	Name of Course	No. of Week	Sponsors	Duration	Coordinator
1	Recent Trends Power Electronics and Power Quality (Under TEQIP)	One week training programme	NPIU	17-21, Dec 2012	Dr. M. M. Waware
2	Advance Control	Two days	WCE, Sangli	May 2012	Mr. A. B.

Sr. No.	Name of Course	No. of Week	Sponsors	Duration	Coordinator
	Systems for PG Control Systems Students	seminar			Patil
3	PLC Automation (Under TEQIP)	Three days training programme	NPIU	18- 20, Jan 2013	Dr. M. M. Waware
4	DSP Processor	Two days training programme	Edgate Technologies Bangalore	Oct 2013	Mr. A. B. Patil
5	Advanced Power Electronics and Drives	Two week training programme	AICTE	9- 20, Dec 2013	Dr. M. M. Waware
6	Advance Embedded Control Systems for PG Control Systems Students	Two days seminar	WCE, Sangli	March 2013	Mr. A. B. Patil
7	Adaptive Control Systems for PG control systems Students (Under TEQIP)	Two days seminar	NPIU	April 2014	Mr. A. B. Patil
8	Design of CSTR Control Systems(Under TEQIP)	Three days Industrial training programme	VI Microprocessor Chennai	Aug 2014	Mr. A. B. Patil
9	DSP and Advance Processor (Under TEQIP)	Two days training programme	Edgate Technologies Bangalore	Oct 2014	Mr. A. B. Patil
10	Control Systems	Two week faculty development programme	IIT Kharagpur-ISTE/AICTE	2-12, Dec 2014	Mr. A. B. Patil
11	Transformer Design and Testing during	One week students	NKenin Transformer	2- 8, Jan 2015	Mr. V. P. Mohale

Sr. No.	Name of Course	No. of Week	Sponsors	Duration	Coordinator
		workshop	Latur		
12	Automation workshop PLC , HMI, VFD, TRANSMITTER VALVES and SCADA	Five days workshop	Educate to automate, Pune	Feb 2014	Prof. Dr. A. P. Vaidya
13	TLS-08 and NRDE (Under TEQIP)	One week workshop	NPIU	8 -12, Aug 2014	Prof. Dr. A. P. Vaidya

7. Industrial Visits: -

i. Three Days Industrial Visit at WRLDC and HVDC Padhaghe, Mumbai during 12 to 14 April 2015.

ii. Two Days Industrial Visit at J.S.W.E.L (JINDAL THERMAL POWER PLANT, RATNAGIRI, MAHARASHTRA) during 22 to23March 2015.

iii. One Day Industrial Visit at Wind Power, Ghatnandreduring 9April 2015.

8. Nation level technical symposium (VISION): -

VISION is the national level technical symposium which is held in Feb or March every year. This includes paper presentation, project presentation, and poster presentation.

9. State level technical symposium (EESA): -

Student Association of Electrical Engineering (EESA) is a group formed by students of Electrical to conduct various technical activities for the benefits of the students. EESA conducts weekly club services which includes Circuit designing, simulations, programming, communication skill development, Quiz, aptitude test. EESA also organizes state level events once per every semester to enhance their skill.

Resources: One staff Advisor (teacher), committee members functioning and execution as per the directives and advice of HOD and Dean –students

36. Give details of "beyond syllabus scholarly activities" of the department.

Table ER – EE – 34: Scholarly Activity Details

Sr. No.	Particular	Resource Person
1	Internal training in the advanced labs	DSP lab- Two Days Training Programme by Edgate Technology Bangalore during Oct 2013.
2	Hands on sessions to the final year and third year students	Transformer Design and Testing during- One week for Third Year students workshop by NKenin Transformer Laturduring 2 to 8 Jan, 2015.
3	Class room sessions to cover the beyond syllabus	Gate classes conducted by faculty
4	Expert Lectures	i."GRID Collapse" by Dr.R.Nagaraja, PRDC, Bangalore. ii."Types of power generating plants, Thermal power plant in details, Role of Electrical Engineers" by Shri. Arvind Paranjape, Assistant General Manager, TATA Power Ltd.(Retd)

37. State whether the programme/ department is accredited/ graded by other agencies. Give details.

Table ER – EE – 35: programme/ department is accredited/ graded by other agencies

Sr. No.	Programme of Study	Description
1	UG B.Tech in Electrical Engineering	Accredited by NBA- AICTE in 2003 for 3 years
2	UG B.Tech in Electrical Engineering	Accredited by NBA- AICTE in 2007 for 5 years
3	PG M.Tech in Control Systems	Accredited by NBA- AICTE in 2012 for 3 years

38. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department

a) Strengths:

- Core Stream Branch
- Dedicated, young and dynamic faculty with good average experience.

- State of the art laboratories.
- Consistent & good results of final year.
- Good Placement

b) Weaknesses:

- Remote location of the Institute

c) Opportunities:

- Starting new PG courses.
- Setting up of centers of excellence in interdisciplinary areas.
- NABL (National accreditation Board for testing and calibration laboratories) accreditation for some laboratories to enhance testing.
- Starting need based certification courses.

d) Challenges:

- Fierce competence for acquiring quality human resources due to opening of new colleges and NIT's.

39. Future plans of the department

- To provide more Industry-Institute relationship to take up real time needs of the industry as students/faculty projects.
- To produce quality student projects taking up innovative problems relevant to the society.
- Conduct various activities to enhance the entrepreneurial skills to the students.
- To provide full-fledged departmental library with adequate computing facilities.
- To conduct Faculty Development Programmes to train the faculty in the emerging technologies and teaching methodologies.
- To increase the number of research publications in the reputed journals
- To apply for more research projects under various faculty research groups of the department to] various R&D and Government funding agencies.

Evaluative Report of the Electronics Department

1. Name of the Department & its year of establishment

Name of the Department: Department of Electronics Engineering
Year of Establishment : 1986

2. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)

Department of Electronics Engineering offers following programmes.

ER-ELN-1: Programme Details

Programme of Study	Intake Capacity	Year of Commencement
UG in Electronics Engineering	60	1986
PG in Electronics Engineering	18 30	1986 2013 (Increase in intake)
Ph.D. in Electronics Engineering	As per vacancy of recognized Guide Maximum 2 per year	Recognized Research Centre in Electronics Engineering for Shivaji University, Kolhapur Since 1986 Recognized Minor research Centre under QIP since 2012

3. Interdisciplinary courses and departments involved

Courses at UG:

Department has offered interdisciplinary courses to the students of other departments as Minor Electronics Engineering programme. The details are as mentioned in the table below.

ER-ELN-2: Interdisciplinary Courses offered by Electronics Department

Course	Offered by Departments
1EN102 Basic Electronics Engineering (Higher level)	Electrical, Computer Science Engineering, Information Technology
1EN101 Basic Electronics Engineering (Lower level)	Civil, Mechanical
2IEN211 Microcontroller Systems	Mechanical, Computer Science Engineering
M1EN201 Analog Electronics	Mechanical, Computer Science Engineering
M1EN302 Electronics System	Mechanical, Computer Science Engineering,
MIEN401 Communication Engineering	Mechanical, Computer Science Engineering

Courses at PG:

No interdisciplinary courses are currently offered for PG programme. However, the different modules of two institute level courses viz. Research Methodology and Optimization Techniques are being offered by the Electronics department faculty.

4. Annual/semester/choice based credit system –Semester based credit System

Semester based credit system is adopted for both UG and PG programs. The number of credits for both UG and PG programs in various semesters is as indicated in the table below.

ER-ELN-3: Number of Credits

UG Programme								PG Programme			
First Year B Tech		**Second Year B Tech**		**Third Year B Tech**		**Final Year B Tech**		**M Tech Part I**		**M Tech Part II**	
Sem I	Sem II	Sem III	Sem IV	Sem V	Sem VI	Sem VII	Sem VIII	Sem I	Sem II	Sem III	Sem IV
21	19	24	23	23	22	22	16	21	21	10	20
40		47		45		38		42		30	
Grand Total :177 Credits								**72 Credits**			

5. Participation of the department in the courses offered by other departments

Courses at UG:

Sr. No.	**Courses Offered**	**Name of the Department**	**Year**
1	2CH101 Engineering Chemistry	Chemistry Department	First Year B.Tech
2	2MA101 Engineering Mathematics I	Mathematics Department	First Year B.Tech
3	2MA102 Engineering Mathematics II		First Year B.Tech
5	2AM 101 Engineering Mechanics	Mechanical Department	First Year B.Tech
6	2ME102 Basic Mechanical Engineering		First Year B.Tech
7	2ME103 Engineering Graphics		First Year B.Tech
8	2CE101 Basic Civil Engineering	Civil Department	First Year B.Tech

9	2HS102 Environmental Science	Civil Department	First Year B.Tech
10	2HS101 Communication Skill	Humanities	First Year B.Tech
11	2PH101 Engineering Physics	Physics Department	First Year B.Tech
12	2EN102 Basic Electronics Engineering	Electronics Department	First Year B.Tech
13	2CS102 Computer Programming	Computer Science Department	First Year B.Tech
14	1IC402 Industrial Management	Mechanical Department	Final Year B.Tech
15	1IC401 Engineering Economics and Business Ethics	Mechanical Department	Final Year B.Tech

Courses at PG:
Project Management (Civil Department), Research Methodology (All dept)

As mentioned above, the different modules of "Research Methodology" are being offered by the expert faculty of all departments.

6. Number of teaching posts sanctioned and filled (Professors/Associate Professors /Asst. Professors)

ER-ELN-4: Teaching Post Details for PG Programme

Posts	**UG**		**PG**	
	Sanctioned	**Filled**	**Sanctioned**	**Filled**
Professors	02	01	01	1
Associate Professors	04	08	02	-
Asst. Professors	11	10	02	02

7. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./Ph.D./ M. Phil. etc.,)

ER-ELN-5: Faculty Profile

(Students Number of Ph.D. Students guided for the last 4 years)

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. Students guided for the last 4 years
Dr. (Mrs) S. S. Deshpande	Ph. D.	Professor	Instrumentation and Control system, Optimization	29	1 : Registered With SUK 2: Selected through QIP(2014)
Dr.(Mrs) S. Subbaraman	Ph.D.	Professor (PG faculty)	VLSI Design, Micro Electronics	26(T)+14(I)	4: Ph D awarded 1: submitted 6: Registered (all with SUK)
Mr. S. N. Kore	M. E. (Eln)	Associate Professor	Microprocessor, Communication and Signal Processing	25	---
Mr. B. G. Patil	M. E. (Eln)	Associate Professor	Bio-Medical Electronics, Communication and Signal Processing	26	---
Mr. V. B. Dharmadhikari	M. E. (Eln)	Associate Professor	Embedded Systems and VLSI	29	---
Mr. S. B. Dhaygude	M. E. (Eln)	Associate Professor	Image Processing	20	---
Mr. N. V. Marathe	M. E. (Eln) 2000	Associate Professor	Communication and Signal Processing	20	---
Dr. Mrs. A. A. Agashe	Ph. D.	Associate Professor	Communication and Signal Processing	14	---

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. Students guided for the last 4 years
Dr. S. D. Ruikar	Ph. D.	Associate Professor	Image Processing	12(T) + 2(I)	---
Mrs. P. N. Savgave	B. E. (Eln)	Assistant Professor	Instrumentation and Control system	20	---
Mr. S. K. Parchandekar	M. E. (Eln)	Assistant Professor	Communication, CMOS VLSI, Electronic Devices and Circuits	23	---
Mr. S. G. Tamhankar	M. E. (Eln)	Assistant Professor	Communication and Signal Processing	11	---
Mr. R. G. Mevekari	M. E. (Eln)	Assistant Professor	Embedded Systems and VLSI	6(T) + 3(I)	---
Mr. V. R. Gaikwad	M. Tech. (Eln)	Assistant Professor	Embedded Systems and VLSI	7	---
Mrs. M. R. Khare	M. Tech. (Eln)	Assistant Professor	Image Processing	6	---
Ms. S. U. Patil	M. Tech.	Assistant Professor	Image Processing	3	---
Mr. S. R. Khedkar	M. Tech.	Assistant Professor	Embedded systems	2	---
Mr. S. G. Nikhade	M. Tech. (Eln)	Assistant Professor	Signal and communication	1	---
Ms. S. P. Bhise	B.E. (Eln)	Pro term Lecturer	VLSI	1	---
Mr. J. G. Shete	M. Tech. (Eln)	Assistant Professor	VLSI	1	---
Mr. Y. B. Mane	M. Tech. (Eln)	Assistant Professor (PG faculty)	Embedded system	15(T)+10 (I)	---

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. Students guided for the last 4 years
Mr. S. S. Salunkhe	M. Tech	Assistant Professor (PG faculty)	Embedded system	1	---

8. Percentage of classes taken by temporary faculty – programme-wise information

ER-ELN-6: Percentage of classes

Year	2012-13				2013-14				2014-15			
Semester	Sem I		Sem II		Sem I		Sem II		Sem I		Sem II	
Program	UG	PG	UG	PG	UG	PG	UG	PG	UG	PG	UG	PG
Regular faculty load in %	49	86	38	82	38	100	39	84	49	69	54	76
Contractual faculty load in %	51	14	62	18	62	0	61	16	51	31	46	24

Since 20- 25% of the total faculty (with higher post) retired, and applications from eligible faculty for recruitment at higher level posts were not received contract faculty was appointed at junior level to fulfill the requirements of departmental load. Hence in the above table, the load taken by contract faculty, especially at UG programme, seems to be higher. It may be noted that the lectures were taken by regular faculty; however the support for tutorials and practical was sought by contract faculty. Because the class is divided into three batches at F.Y. , four batches at S.Y. and five batches at T.Y. & final year, the contribution of practical load to total load of the department is much higher than lecture and tutorial load.

On the other hand it is seen from the table that the load taken by contract faculty for PG programme is less than 20% for the years 12-13 and 13-14; however with the institute drive to attract industry and retired faculty for PG teaching, currently there are three faculty exclusively for PG. Hence for the academic year of 2014-15, the PG load allotted to contract faculty is as high as 25-30%. This also has reflected in regular faculty teaching

UG courses with a result that the load by contract faculty for UG has reduced compared to earlier years.

9. Programme-wise Student Teacher Ratio

Note: The number N_1 in the following tables indicates the number of faculty members taking fractional load (partly UG and partly PG).

ER-ELN-7: Student Teacher Ratio (UG Programme)

Year	No. of students in 2nd Year	No. of students in 3rd Year	No. of students in 4th year	Total no of students	N_1	STR
2011-12	83	76	84	243	13	18.69
2012-13	76	84	75	235	13	18.08
2013-14	76	76	83	235	14	16.79
2014-15	**74**	**75**	**74**	**223**	**11**	20.2

ER-ELN-8: Student Teacher Ratio (PG Programme)

Year	X No. of students in MTech 1st Year	Y No. of students in M Tech 2nd Year	X+Y	N1	STR
2011-12	18	11	29	6.09	4.76
2012-13	16	18	34	7.5	4.5
2013-14	30	16	46	7.5	6.1
2014-15	30	30	60	8.5	6.9

10. Number of academic support staff (technical) and administrative staff: (Sanctioned and filled)

ER-ELN-9: Support Staff

Name of Post	Sanctioned	Filled	2010-11	2011-12	2012-13	2013-14	2014-15
Foreman	No separate sanction of support and administrative staff to department	Filled at the institute level and allotted to the department	-	-	1	1	1
Technical Assistant			2	2	2	1	1
Lab Assistant			5	5	4	4	5
Lab Attendant			-	1	1	1	1

ER-ELN-10: Support Staff Details

Name of the Tech. Staff	Designation	Qualification	Other Technical Skills gained?	Responsibility
Mr. P.P. Barve	Technical Assistant	Radio Servicing Course	Lab Maintenance, Training on PLC	Exclusive Industrial Electronics Lab
Mr. D.R. Jadhav	Foreman	DEE BE. Electrical	Allied Work	Basic Electronics Lab
Mr. S. D. Deshpande	Lab. Assistant, Jr. Clerk	BSc.	PCB Designing	Basic Electronics Lab
Mr. S.B. Kolap	Lab. Assistant	SSC	Computer maintenance	Exclusive Basic Electronics Lab
Mr. S.A. Kolape	Lab. Assistant	12th	Computer maintenance	EDA Lab Embedded System & uP lab
Mr. G.B. Joshi	Lab. Assistant	12th	Lab conduction, Maintenance, Allied Work	PG and Project Lab
Mr. S.N. Nitave	Assistant Instructor	DIE	Lab conduction, Maintenance, Service, Allied Work	Commu. Systems Lab

11. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise.

Externally funded R & D projects:

ER-ELN-11: Funded R & D Projects

Name of Coordinator/PI	Sponsoring Agency	Thirst Area	Fund (in Lakhs)	Grant sanctioned	Status
Dr. Mrs. S. S. Deshpande	Research Promotion Scheme of AICTE, New Delhi	FPGA based model predictive control	12.00	2012-13	In progress
Mr. R. G. Mevekari	BARC, Government of India, Department of Atomic Energy	Rasin making process and technology development	25.00	2012-13	Final Stage
Mr. V. B. Dharmadhikari	John Deree Funds for Advanced Embedded Design Research	Practical problems solutions using Embedded Systems	4.50 (Seed) 1.90 (Project)	2014-15	Seed Money, Project Based Funding
Total Funds for ongoing projects			**43.40**	--	--

12. Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received

ER-ELN-12: Different sources of external funds

Name of the External Source	2014-15 (Rs in lakhs)	2013-14 (Rs in lakhs)	2012-13 (Rs in lakhs)	2011-12 (Rs in lakhs)	2010-11 (Rs in lakhs)
AICTE MODROB grant.	11.50	---	19.90 (7.00+12.90)	---	---
AICTE RPS grant	---	---	12.00	10.00	---

Name of the External Source	2014-15 (Rs in lakhs)	2013-14 (Rs in lakhs)	2012-13 (Rs in lakhs)	2011-12 (Rs in lakhs)	2010-11 (Rs in lakhs)
Board of Research in Nuclear Science Grant	---	---	25.00	---	---
Total	**11.50**	**---**	**56.90**	**10.00**	---
Grand Total-	**Rs. 78.40 lacs**				

13. Research facility / center with

- State recognition: PG and Ph. D recognized center by Shivaji University Kolhapur since 1986
- National recognition: QIP Ph. D center since 2012 for 2 seats per year
- International recognition: --

14. Publications:

Number of papers published in peer reviewed journals (national /International) - Details of publications are attached in Annexure A along with information of all departments.

ER-ELN-13: No. of all publications

Year	Number of Publications in				Total
	National Journal	International Journal	International Conference	National Conference	
2014-15	--	3	4		7
2013-14	--	10	5	1	16
2012-13	--	12	--	2	14
2011-12	--	--	5	4	9
2010-11	--	--	4	4	8

* **Monographs** :

ER-ELN-14: Monographs, Chapter(s) in Books

Sr. No.	Author/s	Year	Title	Complete Reference of Book (Publisher, Edition, Page No.)
1	Deshpande S. S., Vishnu V., Patwardhan S. C.	2009	Unconstrained NMPC Based on a class of Weiner Models: A Closed Form Solution, In Nonlinear Model Predictive Control	L. Magni et al. (Eds.), LNCIS 384, 481-490, Springer-Verlag Berlin Heidelberg, 2009

* **Chapter(s) in Books**: Nil

* **Editing Books**:

ER-ELN-15: Editing Books, Books with ISBN numbers with details of Publishers

Sr. No.	Author/s	Year	Title	Complete Reference of Book (Publisher, Edition, Page No.)
1	Dr. S. D. Ruikar	Oct 2014	Electromagnetic & Electrical Circuits	Nirali Publication, Pune ISBN : 978 -93-5164-333-3
		Aug 2014	Network Analysis	Nirali Publications, Pune ISBN : 978-93-5164-235-0

* **Books with ISBN numbers with details of publishers :** Nil

* **number listed in International Database (For *e.g.* Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) -** Nil

* **Citation Index – range / average-** Nil

* **SNIP-** Nil

* **SJR-** Nil

* **Impact factor – range / average-** Nil

* **h-index-**

ER-ELN-16: Faculty wise Publication with h-Index

Sr. No.	Name of faculty	Citation	H –Index	I10 - Index
1.	Dr. Mrs. S. Subbaraman	69	7	-
2.	Mr. S. N. Kore	7	-	-
3.	Dr. Mrs. S. S. Deshpande	9	2	-
3.	Mr. V. B. Dharmadhikari	13	2	
4.	Dr. Mrs. A. A. Agashe	18	2	1
5.	Mr. B. G. Patil	4	-	-
6.	Dr. S. D. Ruikar	91	3	2
7	Mr. S. G. Tamhankar	7	-	-
8.	Mr. S. K. Parchandekar	1	-	-

15. Details of patents and income generated:

Patent Filed by Dr. S. Subbaraman with Ph. D student Dr. Khandekar, VIIT, Pune

- "Pass Transistor Adiabatic Logic Circuit Standby Mode(PAL2NSM)"Patent Application No. 2315/MUM2011 dated 17-08-2011

16. Areas of consultancy and income generated:

Amount of Rs. 1.9 Lakhs is received for John Deere sponsored project entitled "Design and Development of Drunk Driver Detection System".

17. Faculty recharging strategies

1. Arranging seminars, workshop for all faculty members every year which can promote skill up gradation and make them informed of the current teaching-learning methodologies - FDP
2. Implement TPS-Think Pair Share scheme among the faculty members to get added inputs from the other faculty members.

3. Training and skill up gradations of junior faculty members by senior faculty.
4. Interaction with industry to adopt the industry standards in the teaching process to get aquatinted with the latest industry standards
5. Awarding one faculty from the college with the best teacher award on the Annual day function
6. Faculty is encouraged and provided facilities to present papers at international conferences and attend them under TEQIP
7. Providing necessary infrastructure to upgrade knowledge and/or skills
8. Allowing faculty members to pursue PhD under Quality improvement Programme (QIP)
9. Incentives for additional work
10. Lab facility available after office hours.
11. Exposure to lectures by IIT faculty during through summer and winter courses organized through National mission on education through ICT sponsored by MHRD New Delhi.

18. Student Projects

- Percentage of students who have done in-house projects including inter-departmental

    - Mr. Abhijit Kadam has done inter-departmental project with Mechanical Department.
    - A Resin Sorting project has been done with Mechanical Department.

    UG Projects: 10-15 percent students (on an avg./year) carry out projects in collaboration with industries.

    PG Dissertations: 35-40 percent students (on an avg./year) carry out projects in collaboration with industries / IITs.

19. Awards / recognitions received at the national and international level by

- Faculty:

  - Dr. Mrs. S. Subbaraman is NBA accreditation committee expert.
  - Mr. S. N. Kore, Mr. V. B. Dharmadhikari delivered lectures at Yashda, Pune.

Following faculties received best teacher awards.

ER-ELN-17: Best Teacher Awards

Sr. No.	Name of Faculty	Prize/Award received	Sponsored By	Year
1	Mr. V. R. Gaikwad	Best Teacher	WCE Sangli	2014
2	Mr. V. B Dharmadhikari	Late Padmashree Annasaheb Behare Ideal Teacher Award	Indira Behare Charitable Trust, Pune	2010
3	Mr. S. N. Kore	Late Padmashree Annasaheb Behare Ideal Teacher Award	Indira Behare Charitable Trust, Pune	2005
4	Mr. N. V. Marathe	Late Padmashree Annasaheb Behare Ideal Teacher Award	Indira Behare Charitable Trust, Pune	1999

- Doctoral / Post doctoral fellows

ER-ELN-18: Post Doctoral fellows

Sr. No.	Name of Faculty	Research Center	Status
1.	Mr. S. N. Kore	WCE, Sangli	Thesis submitted
2.	Mr. V. B Dharmadhikari	WCE, Sangli	Thesis submitted
3.	Mr. B. G. Patil	WCE, Sangli	Thesis submitted
4.	Mr. S. G. Tamhankar	VJTI, Mumbai	On going

- **Students**

ER-ELN-19: Prizes & Awards

Year	Student(s) name, title of Paper, venue	Prizes and Awards
2014-15	Abhijeet Kanade, Tire Pressure Monitoring System, Hella India automotive Pvt Ltd, Pune	Pat on the Back Award
	Ganesh Pawar, Tire Pressure Monitoring System, Hella India Pune	Pat on the Back Award
Past students UG	Ms. Manali Bhadsalkar	Got letter of appreciation from Govt of India for giving significant suggestions for Digital India
	Ms. Sayali Kore	Got Letter of appreciation from Canon, Japan for her excellent work in VLSI product Design at Canon, Japan
	Aman Maldar	Selection of paper in IEEE "Implementing SCADA System for Industrial Environment Using 'IEEE C37.1' Standards"

ER-ELN-20: Achievements & Prizes

Sr. No.	Students' Name	Event	Organized by	Award	Year
1	Omkar Watave	NIRMAN FIS-Real Time Factory Information System'.	John Deere, Pune	First Prize	2013-14
	Kunal Jagdale				
	Suyash Patil				
	Sumedh Nitnaware				
	Garima Karwa				
2	Nilesh Upadhye	e-Yantra	IIT Mumbai	First Prize	
	Omkar Watve				

Sr. No.	Students' Name	Event	Organized by	Award	Year
	Yogesh Bhosale				2013-14
	Dhananjay Dharne				
3	Patil Pratiksha	TI Analog Design Contest	Texas Instruments	Winner	2012-13
	Kulkarni Avani				
	Burande Prajakta				
4	Shilpa Shedbale	TI Analog Design Contest	Texas Instruments	Winner	2012-13
	Ashwini Patil				
	Monika Mane				
5	Sameer Mhaiskar	TI Analog Design Contest	Texas Instruments	Winner	2012-13
	Pravin Dhongade				
6	Sachin Waghmare	Techfest	IIT , Bombay	4th prize	2012
7	Hetal Khakharia	Vision WCE, Sangli	WCE, Sangli	1st prize	2012
	Rohit Sannake				
	Sachin Waghmare				
8	Mr. Aditya Shrotri	Shivaji University examination		1st rank	2010

20. Seminars/ Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any.

ER-ELN-21: Workshops & Training Programs

Year	Title	Organized & Funding	Duration	Resource Person	Number of Participant
2013-14	Two weeks Workshop on Signals and Systems	IIT Bombay, MHRD New Delhi.	2-12th Jan 2014	Dr. V. Gadre (IIT Bombay) Professors from IIT Kharagpur	25+PG students

Year	Title	Organized & Funding	Duration	Resource Person	Number of Participant
2012-13	Faculty Development Program on VLSI System Design	Dr. Mrs. S. S. Deshpande, AICTE	10-21st June 2013	Renowned personalities from industries and institutes	32+PG students
	National Conference on Recent Trends In electronics Engineering (NCRTE2K13)	Dr. Mrs. S. S. Deshpande, AICTE	8-9th 2013	Professors from IIT Delhi	35
2011-12	Two Weeks Workshop on Advanced Control System	Dr. Mrs. S. S. Deshpande, AICTE	5-16th Dec 2011	Faculty from IIT Mumbai and Industry person	35+PG students
	National Trends on Recent Trends In electroniss Engineering((NCR TE2K11))	Dr. Mrs. S. S. Deshpande, AICTE	2-4th Dec 2011	IIT faculties and industry persons	42+PG students
2010-11	Two weeks Workshop on Basic Electronics	IIT Bombay, ISTE , MHRD New Delhi.	June-July 2010	Dr. D. K Sharma(IIT Mumbai)	35

ER-ELN-22: Workshops and Seminars by Industry People

Year	Title	Organized & Funding	Duration	Resourse Person	Participants
2014-15	Three days Workshop on Cadence Design Tool	AICTE (TEQIP II Funds)	18-19th July 2014	Mr. Binu Entuple Tech. Bangalore	Faculty members and M Tech students
	Three days Workshop on Altium	AICTE (TEQIP II Funds)	13-14th August 2014	Mr. Manojkumar Altium, Bangalore	
	One Week Workshop on Embedded System Design	WCE, (TEQIP II Funds)	6-10th Jan 2014	Prof James M Conrad; USA	
2013-14	A one Week Workshop on LabVIEW	WCE, (TEQIP II Funds)	11-15th Dec 2013	Organized by Eln Dept. WCE, Sangli along with LabVIEW	Faculty members and M Tech students
2012-13	Two days workshop on Design using Sensor N/W	AICTE (RPS Funds)	March 2013	PervCom Consultant, Kolkatta	Faculty members and M Tech students
	Two days workshop Sensor N/W	AICTE (TEQIP II Funds)	August 2012	IIT, Hyderabad	
2011-12	Seminar on Importance of Control System	DRF	Sept 2011	Mr. Mahendra Kane, L & T Mumbai	B.Tech. (Eln.), M. Tech. (Eln.) Students
	Seminar on Opportunities in VLSI	DRF	Sept 2011	Mr. Santosh Nene, Intersil, Bangalore	B.Tech. (Eln.) Students
	Workshop on Calibrator	DRF	Nov 2011	Mr. Rashmin Parekh, TT	Electronics Engg. Students

21. Student profile course-wise:

ER-ELN-23: Course-wise Student Profile

Name of the Course (refer question no. 2)	Year	Selected		Pass Percentage	
		Male	Female	Male	Female
2IEN211-Microcontroller System(SY)	14-15	19	9	NA	NA
MIEN401-Communication Engineering	14-15	12	6		
M1EN302-Electronic Systems(TY)	13-14	13	6		
M1EN201-Analog Electronics(SY)	13-14	27	5		
M1EN201-Analog Electronics(SY)	12-13	17	7		

22. Diversity of Students –

ER-ELN-24: Students Diversity

Year	Name of the Course	% of students from the college	% of students from the state	% of students from other states	% of students from other countries
	UG	-	100	-	-
	PG	2	97	3	-
	Ph .D	90	95	5	-

23. How many students have cleared Civil Services, Defense Services, NET, SET, GATE and any other competitive examinations?

ER-ELN-25: Competitive Exam Details

Year	Civil Services	Defence Services	NET	SET	GATE	GRE	CAT
2014-15	1 per year	-	NA	NA	15	4-6 per year	-
2013-14					15		6
2011-12					16		-
2010-11					18		-

24. Student Progression

ER-ELN-26: Student Progression

Student progression	Percentage against enrolled
UG to PG	15
PG to M.Phil.	NA
PG to Ph.D.	5
Ph.D. to Post-Doctoral	NIL
Employed • Campus selection • Other than campus recruitment	 90 9
Entrepreneurs	1

25. Diversity of Staff

ER-ELN-27: Staff Diversity

Percentage of faculty who are graduates	
of the same parent university	90
from other universities within the State	10
from other universities from other States	-

26. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period.

Dr. Mrs. S. S. Deshpande was awarded Ph.D in 2010 from IIT, Bombay.

27. Present details about infrastructural facilities

a) Library (Departmental)
Total Books = 439
a. Technical = 439
b. Non-Technical = -

Total Project Reports = 127(MTech Dissertation-55, BTech Projects- 72)

b) Internet facilities for staff and students
Band Width = 200 and 80 Mbps
Compression Ratio = 1:1

Company = Railtel/ Reliance
Band width Management = Elite Core & Cyberoam

c) Total number of class rooms = 3

d) Class rooms with ICT facility: 3

ER-ELN-28: Class Room Details

Room Description	Usage	Shared / Exclusive	Capacity	Area in Sq m.	Rooms Equipped with
Class Room No.11	Teaching	Exclusive	80	80	LCD, white/black Board, Fans, Tubes, Curtains, Benches, Internet wired and/or wireless, Audio video aids, Document Camera / Digitizer
Class Room No. 12			80	80	
PG Class Room	Teaching / PG Project	Exclusive	50	54	LCD, white/black Board, Fans, Tubes, Curtains, Benches, Internet wired and/or wireless, Audio video aids, Computers

e) Students' laboratories

ER-ELN-29: Laboratory Details

Sr. No.	Laboratory	Size
1	Electronics Design and Automation Lab	193.87 m^2
2	Embedded System & Microprocessor Lab	100.47 m^2
3	Digital Design Lab	69 m^2
4	Industrial Electronics lab /	132.48 m^2
5	Instrumentation & Control Lab	119 m^2
6	Instrumentation & Control Lab	119 m^2
7	Applied Electronics Laboratory	85 m^2
8	Basic Electronics Laboratory	85 m^2
9	Communication Laboratory	119 m^2

f) Research laboratories

ER-ELN-30: Research Laboratory Details

Sr. No.	Name of Laboratory	Research facility available
1	Electronics Design and Automation Lab	Facilities available Well-equipped Electronics Design and Automation Lab Major Equipments • P-IV computers with internet/ intranet facility. • Calibrator • NET Sim • Cadence Software University Bundle • Altium Designer 14 • Mentor Graphics ASIC Tool • Keil MDK for ARM Cortex M
2	Embedded System & Microprocessor Lab	Major Equipments • 8085,8051, ARM7 kits & their peripherals • Digital Storage Oscilloscopes • Arbitrary function generator • Universal Programmer • P-IV computers with internet/ intranet facility. • PCB Prototype machine • Embedded System Lab • Hi- Tech Cross Compiler for PIC series • Protel DXP
3	Digital Design Lab	• Digital Storage Oscilloscope's • Experiments chassis • Analog and Digital Electronics Kit's by Texas Instrument
4	Industrial Electronics lab	• Industrial Drives • Power Scopes • PLC Trainer • SCADA
5	Instrumentation & Control Lab	• Sensors /Robot kits/Raspberry-pi boards

Sr. No.	Name of Laboratory	Research facility available
6	PG Lab	• NET Sim Research Version • Dell Computers • LabVIEW add-on boards • LabVIEW software • Cadence Software University Bundle • Mentor Graphics
7	Communication Laboratory	• Wifi Network Explorer with development Boards • Wireless Sensor network Explorer • LABVIEW Academic site with all toolkits • Integrated Logic Analyzer cum Digital Pattern Generator • Microwave Test Bench WITH Klystron Source and Gunn Source • 3 GHz signal generator • 3 GHz Spectrum Analyzer
8	John Deere Advanced Embedded Design Research Lab	• Company environment is provided to students to work on real time research projects. • Desktops, projector etc.

28. Number of students of the department getting financial assistance from College

80% students get National / State level scholarships.

29. Was any need assessment exercise undertaken before the development of new program(s)? If so, give the methodology.

Yes, need assessment of curriculum was carried out before revamping the curriculum after the first batch in autonomous status passed out (i.e in 2011). Because of the academic autonomy, a freedom to modify the structure as well as contents of the courses offered was available to make the curriculum flexible.

The various courses delivered for the same or similar programs by the institutes of national and International repute were studied. The model curriculum recommended by AICTE was taken into consideration. The defined Program

Educational Objectives and Program Outcomes formulated by the department for the programs were also taken as guidelines. Many of brainstorming sessions were carried out among the faculty members of the department to prepare the draft of courses to be offered in all semesters of 4-year program.

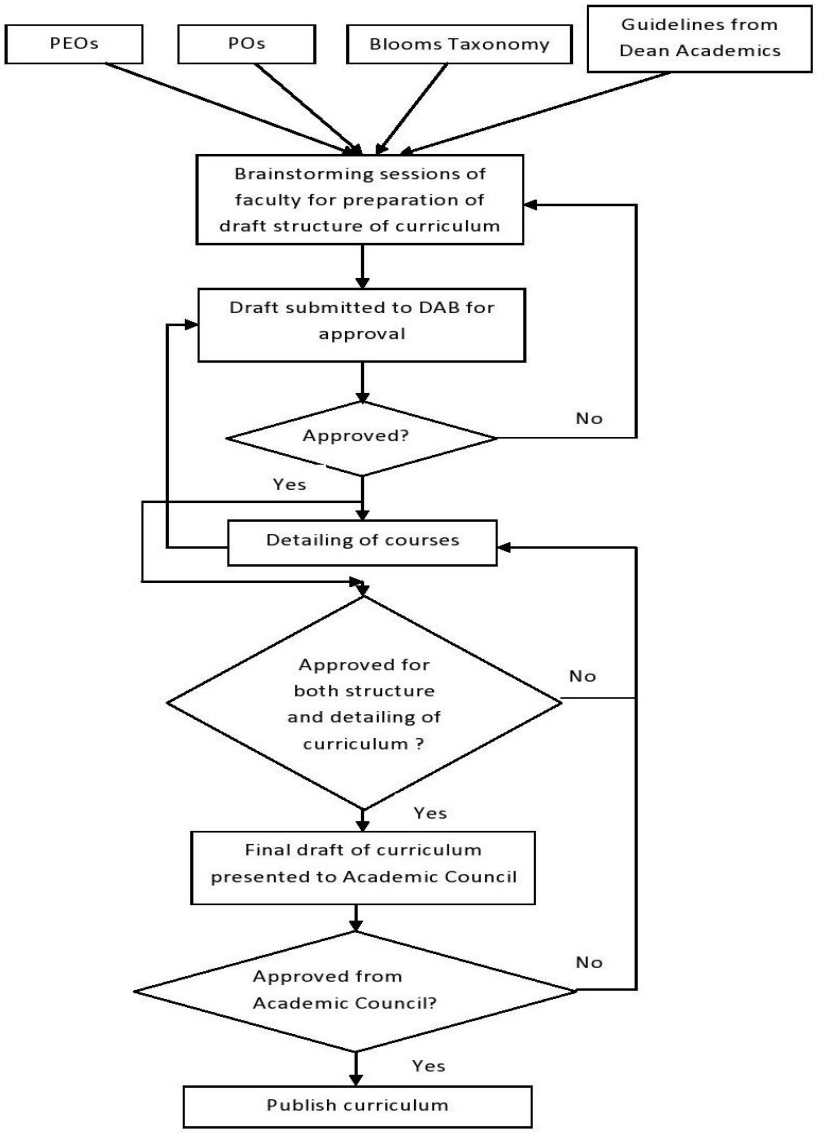
The proposed draft by internal faculty members was then presented to BOS members of the department for discussions and suggestions. BoS constitutes external members from Industry, Academic Institutes, University Representative, Alumni of the department and current students besides all senor internal faculty of the department. Generally the frequency of organizing BoS meeting is one per semester. The suggestions made by BoS members were incorporated in the curriculum. The modified draft was then tabled in the subsequent BoS meeting for their approval and later on in Academic Council meeting held at institute level.

With the thrust of management to make the curriculum world class, guidance from U.S. mentors, viz. Mrs. Loney Morell from HP labs and John from U.S. was sought. They conducted one week workshops at WCE to design the curriculum by taking into consideration Bloom's taxonomy for Teaching/Learning, assessment and Evaluation, Feedback analysis and action etc.

As per the feedback from employers regarding Professional and Soft Skill development of students, numbers of such training programs are organized to develop their personality and build the positive attitude.

Following flow-diagram depicts the methodology used to modify curriculum.

Process employed for designing the Programme Curriculum



30. Does the department obtain feedback from

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?
b. Students on staff, curriculum as well as teaching-learning-evaluation and what is the response of the department to the same?
c. Alumni and employers on the programmes and what is the response of the department to the same?

The institute believes in always adopting dynamic and vibrant curriculum. This offers an opportunity to various programmes to modify and improve the

courses and the curriculum as a whole. The decision to modify curriculum is based on following factors:

- Gap analysis for the attainment of PEOs, POs, and COs against expected figures.
- Continuous technological changes at global level forces to include state-of-the-art elective courses generally at the final year of the programme. This indirectly pushes out other electives of less importance.
- The modification in the curriculum is also carried out if the analysis of the curriculum of this programme and that of reputed national and international educational institutes presents discrepancies.
- The feedback from employers and alumni working in industries or taking higher education in reputed institutes is considered vital in the modification of curriculum.
- The modification in the contents of the current courses is carried out by rigorously analyzing poor performance of the entire class from the overall semester course results and the poor feedback from the students.

Based on the requirement as mentioned above the modification in the courses and curriculum for improvement purpose are carried out by adopting the process given below.

The first draft of POs was defined considering 2009 NBA document, inputs from faculty members and BOS members of the program. These POs were of general nature, the details of which are given below. After three years of autonomy, further inputs and information was collected mainly through ABET documents, reports of Washington Accord, professional bodies, and feedback from industry experts, alumni and employers. Based on these inputs and guideline received from various experts during curriculum revamping process, the POs were modified in order to satisfy the requirements of graduate attributes as outlined by NBA.

Following measures are taken to improve courses and curriculum:

1. Improvement in courses and curriculum is done in line with Vision, Mission, PEOs and POs of the department.
2. Inputs from the IITs and international educational institute's curriculum are taken.
3. Nature of the competitive exams viz. GATE is taken into account.
4. Feedback from the alumni pursuing higher studies and successful entrepreneurs was taken into consideration.
5. Requirement of the industry in terms of skills and capabilities was studied.
6. Feedbacks about the curricula from the alumni during alumni meet.
7. Feedback from the external examiners about the performance of students was sought.
8. Formal or informal discussions with the stake holders of the program were carried out to find out the gaps in curriculum and bridge those in subsequent semester.

Processes used to improve courses and curriculum

The process to improve courses and curriculum is similar to the process given in Section 29. The information collected through various means as listed above is analyzed by conducting brainstorming sessions among the faculty members to prepare a modified draft of curriculum structure and course contents. Then it is presented to DAB members for getting suggestions which are further incorporated. This final draft after the approval of DAB is presented in Academic Council.

List the distinguished alumni of the department (maximum 10)

- Mr. Vishwas Sapkal (1992)
  - Ambassador of Govt of India to USA.
  - He was also a faculty of this department for four years (1993-97).
- Miss Vidya Kulkarni (1992) and Vaibhav Agashe (1994)
  - Working as IAS/IPS officers.
- Mr. Bhaskar Sawant (1992)
  - IAS Rajastan
- Mr. Uday Kshirsagar(1990):
  - M.D. Spitzen Energy, Germany
- Dr. Shreedhar Diwan (1990)
  - R & D engineer in Microsoft Ltd., Hyderabad
- Mrs. Leena Menon (Nayar) (1990):
  - Executive Director, HLL, Mumbai

- Gandhar Gokhale(1997)
  - Software Architect, Intel Corporation
- Mandar Katkar(1993)
  - Program Director, IBM India
- Aditya Shevade(2010)
  - Senior Engineer, Qualcomm, San Diego, Calfornia.

31. Give details of student enrichment programmes (special lectures / workshops / seminar) with external experts.

ER-ELN-31: Guest Lectures

Year	Event/Resource Person	Topic	Date
2014-15	Mr. Mahesh Jadhav	Opportunities in NVIDIA	16/01/2015
	Mr. Raviraj Patil	Electronics in Nuclear Power Plant	16/01/2015
	Mr. Ankur Joshi	Importance of Higher Education	28/08/2015
2013-14	Prof James M Cornrad, UNCC, USA	One Week Workshop on Embedded System Design	6-10th Jan 2014
	LabVIEW	Exposure to LabVIEW	December 2013
	Cadens Design Systems, Pune	VLSI System Design	August 2013
	Prof. R. M. Manthalkar Prof S. Gajre	CMOS-VLSI	Sept 2013
2012-13	Mr. Arunkumar Mr. Santaram (IIT Hyderabad)	Wireless Sensor Networks	August 2012

32. List the teaching methods adopted by the faculty for different programmes.

ER-ELN-32: Teaching Methods

Sr. No.	Teaching Method	Used for
1	Chalk Board (CB)	Conceptual Learning and Mathematical Derivations
2	Power Point Presentation (PPT)	To deliver lectures and help the students learn at their own space by providing course material

Sr. No.	Teaching Method	Used for
3	Animation and Simulation	Explain and visualize abstract concepts
4	NPTEL(National program for Technology Enhanced Learning)	Exposure to domain expertise of reputed faculties from IITs and NITs.
5	Group Discussions (GD)	To carry out brainstorming on open ended problems(To develop team spirit and communication skills)
6	Guest Lectures and Seminars	To cover the contents beyond syllabus guest lectures are arranged.
7	Model and Demonstration	To make students user friendly with latest softwares/embedded boards demonstration sessions from expertise are arranged
8	Mini-projects and Projects	To give hands on experiences to implement the latest technologies in Electronics
9	Industrial Visit (IV)	Exposure to industrial environment and work cultural
10	Self study	To give experience of self-learning. To prepare the students to be self-reliant in exploring new areas of knowledge.

33. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?

A. Attainment of Program Objectives (termed as Program Educational Objectives in our terminology)

By definition, PEOs are the capabilities demonstrated by the graduates of the program after 3-4 years of their graduation. These are as a result of four years of graduation studies in the institute enabling them to acquire graduate attributes as defined through Washington Accord and also the field training of about 3-4 years obtained during work experience of their chosen field of interest.

Program Educational Objectives of Electronics Department are:

After 3-4 years of graduation, the graduates of this program will:

PEO1: "Demonstrate technical competency by applying knowledge to solve problems related with engineering issues."

PEO2: "Exhibit skills and right attitude to succeed in their professional career."

PEO3: "Display thirst and quest for emerging technologies and for creating new knowledge with concern to society and environment."

The two assessment tools used to check the attainment of PEOs are

1. Employer Survey Report
2. Alumni Survey Report

Both survey reports consist of 9-10 questions based on articulation of four PEOs, the answers of which indicate the satisfaction level on a scale of 1 to 5 (1 being poor and 5 being excellent) directing us to derive the attainment level of each objective.:

The alumni survey forms are collected during yearly alumni meet, generally held in month of January. Those who cannot attend alumni meet are requested to fill up online survey forms and requested to send it to alumni coordinator. The forms are then analyzed statistically for the attainment of PEOs.

The following process is carried out to obtain employer survey regarding the attainment of PEOs of the program.

1. Asking the HRD officers to give their survey when they visit the campus for recruitment.
2. The employers of the industries are requested to fill up the online survey form available online on institute web site.
3. TPO Coordinator and program member collects the form by personally visiting employers/industries.
4. The sample PDF copies of the filled employer, alumni forms are attached herewith in annexure 'A'.

The forms are then analyzed statistically for the attainment of PEOs.

The statistical analysis of number of such survey reports received from both alumni and employers represents the attainment of program educational objectives and direct us for further action for improvement.

B. Attainment of Program Outcomes:

By definition, POs are the capabilities demonstrated by the students of the program at the time of graduation. Program outcomes of the Electronics Department are:

a. Demonstrate an ability to identify, formulate and solve Electronic engineering problems.
b. Analyze and Synthesize Electronics systems with basic Electronic components.
c. Design and mathematically model the Electronic Systems and performance evaluation and experimentation.
d. Design and work on laboratory and multidisciplinary projects in a team.
e. Demonstrate skills to use modern tools, software, and equipment to analyze and solve the problems.
f. Exhibit professional and ethical responsibilities including engineering solutions on the social and environmental issues.
g. Communicate effectively in both verbal and written form.
h. Perform in competitive examinations like GATE, CAT, GRE, project competitions etc.
i. Recognize the need for, and ability to engage in life-long learning
j. Have knowledge of contemporary issues
k. Use of the techniques, skills, and modern engineering tools necessary for engineering
l. To analyze, design and validate electronics based systems using state of the art approaches for applications including signal processing, communications, computer network and control systems

These program outcomes are consistent with graduate defined through Washington Accord which has been also accepted by NBA. These POs emphasize on acquiring knowledge (Basic, domain and related engineering sciences), developing skills (professional and technical), and imbibing positive attitude. The attainment of POs related with knowledge is assessed through attainment of course outcomes (COs of each course are mapped to POs) using direct assessment tools like assignments, tutorial, quiz, mid-semester examination, end-semester examination, laboratory examinations and orals, and

indirect assessment tools like course exit survey and graduate exit survey. On the other hand the attainment of POs related with skills and attitude is assessed through rubrics developed by the department, and also through student portfolios giving information about the participation of the students in the co-curricular and extra-curricular activities. The various tools used for assessment are used to track the development of individual student, of a class and finally of a program.

Semester wise survey of the attainment of Course Outcomes of all UG and PG programs is discussed in the department meeting. Any gap between expected and attained level is analyzed and the corrective action for the subsequent delivery of such courses is decided.

Regular checks of curriculum delivery, teaching-learning, assessment are carried out by Dean RDQA office while HoD of the department ensures the monitoring of all academic activities throughout the semester with the help of class coordinators. The academic calendar prepared by Dean Academics office is strictly followed. Compensation of any loss of lectures is scheduled on working Saturdays.

34. Highlight the participation of students and faculty in extension activities.

ER-ELN-33: Professional Societies

Name of the Professional Societies	Activities / events organized/ Details/Resource Person
ELESA	Student Association of Electronics Engineering (ELESA) is a group formed by students of Electronics to conduct various technical activities for the benefits of the students. ELESA conducts weekly club services which includes Circuit designing, simulations programming, communication skill development, Quiz, aptitude test. It also organizes state level events once per every semester to enhance their skill. **Resources**: One staff Advisor(teacher), committee members functioning and execution as per the directives and advice of HOD and Dean –students
VISION	VISION is the national level technical symposium which is held in Feb or March every year. This includes paper presentation, project presentation, and poster presentation.

ELESA has organized the following workshops to enrich the students in softwares like MATLAB and Proteus.

ER-ELN-34: ELESA Activities

Sr. No.	Year	Date	Event	No of Participants
1	2014-15	11/07/2014 and 12/07/2014	MATLAB Workshop	103
2		05/04/2014	MATLAB Workshop	49
3		29/03/2014 and 30/03/2014	Proteus Workshop	28
4		16/02/2014	Proteous workshop	99
5	2013-14	21/09/2013 and 22/09/2013	ELECTROVERT	
6		22/09/2013	Prochestro	3
7		22/09/2013	Niftex	78
8		21/09/2013	Cirkuit Ninja	79
9		21/09/2013	u-Geek	91
10		21/09/2013	Proteus Workshop	76
11		21/09/2013	Trail Blazer	16
12		21/09/2013	Novato	190
13		27/07/2013 and 28/07/2013	MATLAB Workshop	56
14		09/04/2013 and 11/04/2013	Excellence	T.Y. ELN
15		06/04/2013 and 07/04/2013	Proteus Workshop	F.Y. ELN
16		6/04/2013 and 7/04/2013	Proteus Workshop	59
17	2012-13	06/10/2012 and 07/10/2012	ELECTROVERT	

18		06/10/2012 and 07/10/2012	Corto-Circuito	50
19		06/10/2012 and 07/10/2012	Pro-Corn	55
20		06/10/2012 and 07/10/2012	Projectronics	22
21		06/10/2012 and 07/10/2012	Craftronics	21
22		06/10/2012 and 07/10/2012	BEE Line	7
23		31/03/2012 and 01/04/2012	Proteus Workshop	59
24	2011-12	01/10/2011 and 02/10/2011	ELECTROVERT	
25		01/10/2011	Code Tricks	66
26		01/10/2011	Projectronics	14
27		02/10/2011	Craftronics	29
28		17/03/2011 and 18/03/2011	Excellence	54
29		16/07/2011 and 17/07/2011	Proteus Workshop	74
30	2010-11	26/09/2010	Projectronics	SY and FY
31		25/09/2010 and 26/09/2010	Techumen	SY and FY
32		25/09/2010 and 26/09/2010	Circuitraonics	100
33		25/09/2010 and 26/09/2010	Quiscentronix	45
34		25/09/2010	Code Tricks	43
35		26/09/2010	Projectronics	SY and FY

Departmental / Institutional Committees for academic year 2014-15

The following table indicates the responsibilities besides academics being carried out by the faculty of the department at institute/ department level for smooth functioning.

ER-ELN-35: Faculty Responsibilities

Name of the Faculty	Activity / Committee
Mr. V. B. Dharmadhikari	HOD, Academic Council Member, CDC Member
Dr. Mrs. S. S. Deshpande	Academic Council member, Womens cell Committee Chairperson, NAAC Dept section In-charge, Coordinator for Virtual Labs
Dr.(Mrs) S. Subbaraman	NBA/ NAAC coordinator (Institute Level)
Mr. S. N. Kore	Dean academics, Remote Center Coordinator
Mr. B. G. Patil	Dept. PG Co-ordinator
Mr. S. B. Dhaygude	Dean Training and placement
Mr. N. V. Marathe	Legal OSD
Dr. Mrs. A. A. Agashe	Dept. NBA Coordinator, Academic Auditor
Mr.S. D. Ruikar	College website for Electronics development
Mrs. P. N. Savgave	Rector Girls Hostel, TY Class Teacher
Mr. S. K. Parchandekar	Department Exam Co-ordinator,
Mr. S. G. Tamhankar	TEQIP Coordinator, Department Academic Coordinator, CCF incharge
Mr. R. G. Mevekari	SY Class Teacher
Mr. V.R. Gaikwad	Final Year Class Teacher

35. Give details of "beyond syllabus scholarly activities" of the department.

ER-ELN-36: Scholarly Activities beyond Syllabus (2014-15)

Sr. No.	Activity	Description
1	LabVIEW Workshop	Installation and training to faculty by NI experts on LabVIEW
2	Proteus Workshop	Circuit simulation workshop for students.
3	Altium Workshop	Installation and training to faculty by NI experts on Altium.
4	Cadence Workshop	Installation and training to faculty by NI experts on Cadence.
5	Virtual Lab	The Institute has been selected as a Nodal Centre of

		Virtual Labs, a Joint Initiative of IIT Bombay and MHRD, Government of India. Virtual Labs has been designed to provide remote access to labs at IIT Bombay in various disciplines.
6	Mini-projects & competitions	Executed as a part of curriculum. Competitions were held to create competitive spirit and enhance the student abilities.
d	Practice based Projects	Practice based Projects are introduced to enhance the practical skills of students with design experience.
8	Expert Lecture	Expert Lectures organized every semester for almost every course.

36. State whether the programme / department is accredited/ graded by other agencies. Give details.

ER-ELN-37: Accreditation Details

Programme (UG/PG)	Programme Title	First Accreditation	Second Accreditation	Third Accreditation
UG	Electronics Engineering	Three years 2003-2006	Five Years 2007-2012	Applied for Accreditation under Tier I of NBA Jan 2013 documents
PG		Accredited for 3 years 2012-15	Applying	-

37. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department

ER-ELN-38: Strengths, Weaknesses, Opportunities and Challenges (SWOC)

STRENGTH	**WEAKNESSES**
➢ Well qualified faculty ➢ 100% faculty retention rate ➢ Well-equipped laboratories ➢ Meritorious students ➢ Excellent campus placement ➢ Increasing industrial interface	➢ Lack of communication skill in students due to their rural background ➢ Less no. of quality research publications and projects ➢ Shortage of qualified support staff ➢ Less industrial exposure of faculty
OPPORTUNITIES	**CHALLENGES**
➢ Increasing demand of Electronics Students in view of Make in India drive of Govt of India ➢ Possibility of running professional courses for students/professionals for generating revenue. ➢ A lot of online training courses have started. The department can leverage this. ➢ Possible to help industries by the way of technology development through student participation and sponsored projects.	➢ Uphold the remarkable academic competency with reputed universities. ➢ Nearby private colleges are changing fast, hence we need to face the competition. ➢ The technology is changing very fast. It is challenge to keep up with the rapid changes in technology. ➢ Improvement in communication and presentation skills of students ➢ Changing the mindset of students from grade oriented to knowledge oriented.

38. Future plans of the department

ER-ELN-39: Future Plans

Short Term	Long Term
Technical Infrastructure & Set Up: 1. Increasing the network speed from 100 Mbps LAN to Gbit LAN. 2. Setting up of better computing environment with use of virtualization.	Setting up of own e-learning creation and certification center.
Refurbishing the EDA lab and Microcontroller lab for catering the needs of M. Tech Labs, B. Tech projects and other lab requirements	Setting up of Center of Excellence in Product Design/Industrial Research and Coming out as reputed product design and research center in Maharashtra/India
Enhancing teaching learning process with involvement of industrial guest faculty.	Establishing academic alliance program with industries.

Evaluative Report of Computer Science and Engineering Department

1. **Name of the Department & its year of establishment**

   Computer Science and Engineering& established in 1986

2. **Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)**

Table ER-CSE-1:
Programme Details

Programme of Study	Description
UG in Computer Science andEngineering	Started with intake of 60 in 1986. Intake increased to 90 in 2001
PG in Computer Science andEngineering	Started with intake of 18 in 1998. Intake increased to 30 in 2012
Ph.D. in Computer Science and Engineering	Started in 1998. Recognized Research Centre for Shivaji University, Kolhapur. Recognized Minor Centre under QIP since 2012
M.Tech. CSE(IT)	Started program as a specialization in Information Technology with intake of 18 in 2012. This program is run by IT department

3. **Interdisciplinary courses and departments involved**

   In this document Computer Science and Engineering is also referred as CSE.

   Department offers interdisciplinary electives. Students from other departments canopt for the subjects. Similarly students from CSE department opt for the subjects offered by other departments. The faculty from CSE department is involved in teaching first year courses common to all the departments. The courses named “Introduction to Computer” and “Computer Programming” are being taught by CSE department faculties. Some of the courses are common between CSE and IT department. For the common subjects faculty members from both the departments involved in activities of syllabus design, paper setting, in-semester evaluation etc.

Following table shows information about courses offered by other departments and undertaken by students from CSE department.

Table ER-CSE-2:
Interdisciplinary Courses at UG

Courses of Study	Offered by Department
SY B.Tech - Statistics and Fuzzy System(2DCS211)	Mathematics Department
TY B.Tech. –Engineering Economics(1HS104)	Mechanical Engineering
B. Tech. – Industrial Management(1IC402)	Mechanical Engineering

Table ER-CSE-3:
Interdisciplinary Courses at PG

Courses of Study	Offered by Department
M.Tech – I: Research Methodology	Doctoral faculties from all departments deliver lectures on Research Methodology
M.Tech – I: Project Management	Civil
M.Tech – I: Computer Security	Information Technology
M.Tech – I: Parallel Algorithm and Design	Information Technology
M.Tech – I: Visualization Techniques	Information Technology
M.Tech – I: Information and Storage Management	Information Technology

4. Annual/ semester/choice based credit system

Semester based system is adopted for both UG and PG programs. Students choose elective subjects from the list of offered electives depending on her / his own interest.

5. **Participation of the department in the courses offered by other departments**

Table ER-CSE-4:
Institute electives offered by Electronics Dept.

Course	Offered by Departments
UNDERGRADUATE	
1CS101 Introduction to Computer	Civil, Mechanical
1CS102 Computer Programming	Electrical, Electronics, Information Technology
POSTGRADUATE	
Network Security	IT
Image processing	IT
Advance Software Engineering	IT
Advanced Database Systems	IT
Advance Algorithm	IT
Project Management	All dept
Research Methodology	All dept

6. **Number of teaching posts sanctioned and filled (Professors/Associate Professors/ Asst. Professors)**

Table ER-CSE-5:
Teaching Post Details for UG Programme

	Sanctioned	Filled
Professors	02	01
Associate Professors	04	02
Assistant Professors	08	04

Table ER-CSE-6:
Teaching Post Details for PG Programme

	Sanctioned	Filled
Professors	1*	-
Associate Professors	1*	-
Assistant Professors	-	

* Non grantable

7. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./Ph.D./ M. Phil. etc.,)

Table ER-CSE-7:
Faculty Profile

Name of the Faculty member	Qualification	Designation	Specialization	No. of Years of Experi_ence	No. of Ph.D. Students guided for the last 4 years
Dr.P.J. Kulkarni	Ph.D.	Prof. and Dy. Director	Image Processing and Pattern Recognition, Machine Learning	32	06
Dr. B.F. Momin	Ph.D.	Asso. Prof.	RDBMS and Data Mining	19	NIL
Dr. S.H. Bhandari	Ph.D.	Asso. Prof.	Image Processing and Computer Vision	06	
Shri. A.R. Surve	Ph.D. (In Progress)M.E.	Assistant Professor	Software Engineering, Distributed Systems, Pervasive Computing	17	--
Mrs. M.A. Shah	Ph.D. (In Progress) M.E.	Assistant Professor	High performance Computing	12	--
Shri. N.L. Gavankar	Ph.D. (In Progress) M.E.	Assistant Professor	Geographical Information Systems	08	--
Shri. M.K. Chavan	M.E.	Assistant Professor	Network and Information Security	12	--
Mrs. S.S. Solapure	M.E.	Assistant Professor	Networking	20	--
Mrs. H.V. Gandhi	M.Tech.	Assistant Professor	Image Processing	05	--
Mr. S. Reddy	M.Tech.	Assistant Professor	Network Jamming	1.5	--
Mr. V.H. Honmane	M.Tech.	Assistant Professor	Web Technology	02	--
Ms. T.T. Kulkarni	B.E.	Pro-term Lecturer	Networking	01	--
Ms. N. L. Mudegol	M.Tech. (Appeared)	Pro -term Lecturer	Database Security	02	--
Ms. S. Kshirsagar	M.Tech.	Pro -term Lecturer	Image Processing	01	--

8. Percentage of classes taken by temporary faculty – programme-wise information

Table ER-CSE-8:
Percentage of classes(UG) by contractual faculty

Year	S.Y.		T.Y		B.Tech	
	Sem I	Sem II	Sem I	Sem II	Sem I	Sem II
2011-12	83.9	74.7	51.6	59.8	28.9	38.3
2012-13	76	87.3	63.9	60.7	30.3	40.2
2013-14	69	87.3	71.7	59	77.8	46.7
2014-15	68.4	85	90.5	75.7	39.4	19.7

Table ER-CSE-9:
Percentage of classes(PG) by contractual faculty

Year	Sem I	Sem II
2011-12	0 *	0 *
2012-13	0 *	0 *
2013-14	0 *	20.63
2014-15	10	20.63

* It was practice till first semester of 2013-14 to conduct the PG classes by permanent faculty members. With the induction of Doctorate faculty at PG level on contractual basis, load was distributed to them.

9. Programme-wise Student Teacher Ratio :

Table ER-CSE-10:
Programme-wise Student Teacher Ratio

Year	Student-Teacher Ratio (UG)	Student-Teacher Ratio(PG)
2011-12	15.4	2.2
2012-13	20.6	2.2
2013-14	21.9	3.3
2014-15	23.1	3.3

The intake of CSE is 90 and lateral intake is 18, so total strength of class is approximately 115 (including backlog if any). But the sanctioned posts are as per intake of 90. Further, vacant positions at higher posts are not filled due to non-receipt of applications from eligible candidates. The total faculty recruitment is met by appointing contractual faculty members every year.

10. Number of academic support staff (technical) and administrative staff: sanctioned and filled

Table ER-CSE-11:
Support Staff Details

	Sanctioned	Filled
Technical Support Staff	NA	06
Class IV	NA	03

11. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise.

Table ER-CSE-12:
Funded R & D Projects

Year wise	Number	Nameof theproject	Name of the funding agency/ Industry	Total grant received Rs. Lac
2013-16	20/AICTE/RIFD/RPS(POLICY-II)/ 36/2012-13	Design and Development of Surveillance Data Mining System (PI: Dr. B.F. Momin)	AICTE RPS	15.5
2013-16	20/AICTE/RIFD/RPS(POLICY-II)/ 39/2012-13	Implementation of Cellular Automata for Multi-share Cryptography Security (PI: Dr. S.P. Sonavane)	AICTE RPS	8.0

12. Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received

Table ER-CSE-13:
Grant Details

Grant Received from various funding agencies during 2009-14				
Sr. No.	**Scheme/Year of Sanction**	**Principle Investigator / Coordinator**	**Amount in Rs.lakhs**	**Title of the Project**
1	DST WOSA/ 2006	Dr. S.H. Bhandari	16.98	Surface Texture Analysis with Wavelet Transform for Product Quality Monitoring
2	AICTE RPS/ 2009	Mrs. M.A. Shah	3.5	Design and development of Content based routing protocol for MANET

3	DST/2010	Dr. S.H. Bhandari	8.88	Exploring Image Analysis Techniques for Detection and Classification of Malignant Breast Lesions
4	AICTE RPS/ 2012	Dr.P.J.Kulkarni	9.20	Development of Neuro-fuzzy system for HCI applications based on eye-gaze tracking.
5	AICTE RPS/ 2013	Dr. B.F. Momin	15.5	Design and Development of Surveillance Data Mining System
6	AICTE RPS/ 2013	Dr. S.P. Sonavane	8.0	Implementation of Cellular Automata for Multi-share Cryptography Security
Total Grant Received			**62.06**	

13. Research facility / centre with

- **state recognition**
- **national recognition**
- **international recognition**

Table ER-CSE-14:
Research Facility/Centre

Sr. No.	Research Centre	Level
1	Shivaji University, Kolhapur recognized research center	State
2	Ph.D. under QIP (minor research centre)	National

14. Publications:

* **Number of papers published in peer reviewed journals (national/international)**

Details of publications are attached in Annexure A of SSR.

Table ER-CSE-15:
No. of all publications

Year	Total no. of publication	National publications	International Publications
2011	12	1	11
2012	16	2	14
2013	06	-	04
2014	10	-	10
2015	-	-	-
Total	**44**	**3**	**39**

* **Monographs:** - Nil

* **Chapter(s) in Books :** - Nil

* **Editing Books** : - Nil

* **Books Reviewed prior to publications:**
Following books are reviewed by Dr. P.J. Kulkarni prior to publications.

1. Fundamentals of Artificial Intelligence : McGraw Hill (Inc) Pub 2008
2. Artificial Intelligence : Pearson Publications 2007

* **Books with ISBN numbers with details of publishers :** - Nil

* **Citation Index – range / average** - Nil

* **SNIP** - Nil

* **SJR** - Nil

* **Impact factor – range / average** - Nil

* **h-index**

Table ER-CSE-16:
h-index

Sr. No.	Author Name	Papers	Citations	Years	Cites/ Year	H-Index	G-Index	E-Index
1	P.J.Kulkarni	16	22	6	3.67	4(73%)	4(73%)	0
2	B.F.Momin	5	30	9	3.33	2(100%)	5(100%)	5.10
3	S.H.Bhandari	8	14	8	1.75	3(79%)	3(79%)	1.41
4	S.M.Deshpande	5	65	25	2.60	3(98%)	5(100%)	7.42
5	S.P.Sonavane	19	87	7	12.43	3(94%)	9(100%)	8.54
6	M.A.Shah	5	4	4	1	1(100%)	2(100%)	1.73
7	A.R.Surve	2	1	1	1	1(100%)	1(100%)	0.00
8	M.K.Chavan	2	1	2	0.50	1(100%)	1(100%)	0.00
10	H.V.Gandhi	2	0	1	0	0(0%)	0(0%)	0.00
11	S.M.Kshirsagar	3	0	1	0	0(0%)	0(0%)	0.00
12	V.N.Honmane	1	0	2	0	0(0%)	0(0%)	0.00

15. Details of patents and income generated

Table ER-CSE-17:
Patent Details

Faculty Name	Patent
Dr. S.P. Sonavane	Filed patent in April 2012 in the field of Computer Vision and Security with financial support of TEQIP-II.

16. Areas of consultancy and income generated :

- Following components contribute to consultancy work
    - Software testing and hardware benchmarking
    - Conducting online examinations like MKCL, DOEACC etc.
    - Educational consultancy

17. Faculty recharging strategies

1. Arranging workshops for all faculty members every year which can promote skill up gradation and make them informed of the current teaching-learning methodologies - FDP
2. Implement TPS-Think Pair Share scheme among the faculty members to get added inputs from the other faculty members
3. Interaction with industry to adopt the industry standards in the teaching process to get aquatinted with the latest industry standards

4. Awarding one faculty from the college with the best teacher award on the Annual day function

5. Faculty is encouraged and provided facilities to present papers at international conferences and attend them under TEQIP

6. Providing necessary infrastructure to upgrade knowledge and/or skills

7. Allowing faculty members to pursue PhD under Quality improvement Programme (QIP)

8. Incentives for additional work

9. Faculty members are encouraged to pursue Ph.D. under Shivaji University. Duty leave is granted to faculty members during their course work and course work examination.

18. Student projects

- **percentage of students who have done in-house projects including inter-departmental**

- **percentage of students doing projects in collaboration with industries / institutes**

- **UG:**

  - Until 2013-14, upto 20% students carried out projects in collaboration with the industries and remaining 80% students were involved in in-house projects.

  - In the current year 2014-15, 54% of the students are involved incarrying out their B.Tech Projects in industries and collaboration with institutes andremaining 46% students are doing in-house projects.

  - 5% projects are based on hardware interface.

- PG:

Table ER-CSE-18:
Project Details

Year	Sponsored	In-house projects
2009-2011	0	100
2010-2012	5%	95%
2011-2013	22%	78%
2012-2014	11%	89%
2013-2015	27%	73%

It is seen that the number of sponsored and industry projects/dissertations are going on increasing. Students are doing real time projects of industries and they get good exposure for current research and technology.

19. Awards / recognitions received at the national and international level by

- **Faculty**
- **Doctoral / Post -Doctoral fellows**
- **Students**

Table ER-CSE-19:
Award/Recognitions Details

Academic Year	Name of the Person (refer question no. 2)	Designation	Award / Recognition Received
2011-12	Dr. P. J. Kulkarni	Professor	Maharashtra State Best Teacher Award
2011-12	Dr. P. J. Kulkarni	Professor	Recognition in Who's Who for excellence in Academics
2013-14	Mrs. M. A. Shah	Assistant Professor	Received sponsorship of US$ 400 Best presentation award at Doctoral Symposium of DEBS at IIT, Mumbai
2014-15	Dr. S. H. Bhandari	Associate Professor	Best Teacher Award
2014-15	Mrs. M.A. Shah	Assistant Professor	Received sponsorship of US$ 200 for IPDPS Conference
2013-14	M.K. Chavan	Assistant Professor	Received research fellowship at IIScBangalore and worked on a research project "Analyzing and Verifying Cryptographic Modules in Asterisk for FIPS 140 – 2" in Supercomputer Education Research Centre (SERC) Department.

20. Seminars/ Conferences/Workshops organized and, if any.

Table ER-CSE-20:
Workshops & Training Programs

Sr. No	Year	Title	Funding Agency	No. of Participants
1	2010	Effective Teaching in Engineering Education	Shivaji University, Kolhapur	50
2	2010	Wavelets and Applications of Wavelets	Self-Finance	40
3	2010	Parallel programming paradigm	TEQIP	30
4	2010	Two week ISTE workshop on Database Management System	MHRD, Govt. of India	40
5	2011	Two Week ISTE-STTP workshop (self-finance basis) on Advanced Software Testing	Self-Finance	40
6	2012	Curriculum Revamp workshops	TEQIP	100
7	2012	Two days workshop on Exata Cyber	TEQIP	30
8	2013	Two-week AICTE sponsored Faculty Development Program on "Computer Security"	AICTE	40
9	2013	One-week Faculty Development Program on Cloud Computing	IUCEE	30
10	2013	Prof. SohamSohoni from Arizona State University (USA) conducted a Half Day Faculty Training Program on "Pedagogical Teaching Schemes"	IUCEE	70
11	2014	Two week ISTE-IITB workshop on Cyber Security 10th to 20th July 2014 organized by CSE department Under the National Mission on Education through ICT (MHRD, Govt. of India)1130 – Walchand College of Engineering, Sangli	MHRD, Govt. of India	30
12	2014	Two Phase Workshop of NBA on "Training and Identification of Master Trainers on Outcome Based Accreditation Process and Parameters"	NBA	60

21. Student profile course-wise:

Table ER-CSE-21:
Course-wise Student Profile

Year	Name of the Programme	Applications Received	Selected		Pass Percentage	
			Male	Female	Male	Female
2010-2011	UG CSE		66	34	97.3	97.22
	PG CSE		9	6	100	100
	Ph.D.	--	--	--	--	--
2011-2012	UG CSE		69	26	98.61	97.56
	PG CSE		14	4	100	100
	Ph.D.	--	--	--	--	--
2012-2013	UG CSE		57	38	94.59	97.73
	PG CSE		14	4	100	100
	Ph.D.	--	--	--	--	--
2013-2014	UG CSE		63	32	100	100
	PG CSE		24	6	100	100
	Ph.D.		01	01		
2014-2015	UG CSE		64	29		
	PG CSE		18	12		
	Ph.D.		02	--		

22. Diversity of Students

Table ER-CSE-22:
Students Diversity

Year	Name of the Programme	% of students from the college	% of students from the state	% of students from other states	% of students from other countries
2010-2011	UG CSE		100	0	0
	PG CSE	------	100	0	0
	Ph.D.				
2011-2012	UG CSE		100	0	0
	PG CSE	5.55	100	0	0
	Ph.D.				
2012-2013	UG CSE	----	100	0	0
	PG CSE	0	100	0	0
	Ph.D.				
2013-2014	UG CSE	-----	100	0	0
	PG CSE	10	100	0	0
	Ph.D.				
2014-2015	UG CSE	-----	100	0	0
	PG CSE	30	100	0	0
	Ph.D.				

23. How many students have cleared Civil Services, Defense Services, NET, SLET, GATE and any other competitive examinations?

Table ER-CSE-23:
Competitive Exam Details

Year	Competitive exam					
	Civil Services	Defence Services	NET	SLET	GATE	GRE
2011	--	--	NA	NA	19	6
2012	--	--	NA	NA	24	--
2013	--	--	NA	NA	--	8
2014	--	--	NA	NA	--	8
2015	--	--	NA	NA	6	--

24. Student Progression

Table ER-CSE-24:
Student progression

Year	Progression % against enrolled					
	UG to PG	PG to M.Phil./ Ph.D.	Ph.D to Post-Doctoral	Employed(UG+PG)		Entre_ preneurs
				Campus Selection	Other than Campus Selection	
2010-2011			--	88.43	--	--
2011-2012	12	6	--	91	--	--
2012-2013	1	4	--	81	--	--
2013-2014	3	4+1*	--	84	--	--
2014-2015	9	--	--	81	--	--

25. Diversity of staff Table ER-CSE-25:

Staff Diversity

Year	**Percentage of faculty who are graduates**					
	of the same parent university		**from other universities within the State**		**from other universities from other States**	
	Regular	**Adhoc**	**Regular**	**Adhoc**	**Regular**	**Adhoc**
2010-11	71	100	28	--	--	--
2011-12	71	83	28	17	--	--
2012-13	71	80	28	20	--	--
2013-14	71	90	28	10	--	--
2014-15	71	43	28	43	--	14

26. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period.

Table ER-CSE-26:
Ph.D. Details

No.	Name	Year
1.	Dr. S. P. Sonavne	2010
2.	Dr. S. H. Bhandari	2010
3	Dr. B. F. Momin	2008

27. Present details about infrastructural facilities

a) Library

Table ER-CSE-27:
Department Library Books, Journals, Reference books

No. of Books	No. of UG Projects Reports	No. of PG Dissertations	Magazine
200	115	66	25

b) Internet facilities for staff and students

Band Width = 200 & 80 MBps
Compression Ratio = 1:1
Company = Railtel /Reliance
Band width Management = Elite core &Cyberom

c) Total Number of class rooms

- There are 3 class rooms each measuring approximately 70 sq.m each.

d) Class Rooms with ICT facility

- All 3 class rooms are having state of the art teaching aids.

e) Students' Laboratories

Table ER-CSE-28:
LaboratoryDetails

Sr. No.	Name of the Laboratories	Major Equipment	Software
1	Advanced Software Engineering Lab	Intel Core i5 HCL Branded Desktop Systems – 20 Nos DeskJet colour printer – 01	IBM Rational Software RFT, TQM, RSA, RSE - 01Wifi zone

2	Database Engineering Lab	Intel Core i5 HP Branded Desktop Systems – 14Nos Dell Optiplex GX380 – 01 No.HP 202 G2 MT – 01 No.Wifi Zone, CCTVCamera	Visual Studio, Oracle 11g etc.
3	Research Lab	Dell Optiplex380 – 15 Nos.CISCO Switches, Routers Firewalls	Exata cyber 3.0, Qualnet 5.0
4	Mini Computer Facility Lab (4 wings)	Branded Desktop Systems HCL, Lenovo, HP, Dell – 70 Nos,Thin Client N-Computing Nodes - 40 NosWifi zone available	Linux, Java, oracle etc.
5	Post Graduate Lab – I	Core i7 Desktop Systems – 30 Nos Wifi zone available	Windows8 MATLAB 15.0
6	Post Graduate Lab – II	Dell Optiplex790MT Core i7 Desktop Systems – 20 Nos.Corei5 HP Branded Desktop Systems – 17 Nos WiFiZoneavailable	Windows 8 MATLAB 15.0

f) Research Laboratories

Table ER-CSE-29:
Research LaboratoryDetails

Sr. No.	Name of the Laboratories	Major Equipment	Software installed
1	Research Lab	Dell Optiplex380 – 15 Nos.,CISCO Switches, Routers Firewalls	Exata cyber 3.0, Qualnet 5.0
2	Post Graduate Lab – I	Core i7 Desktop Systems – 30 Nos. Wifi zone available	Windows 8 Exata cyber 3.0, Qualnet 5.0, MATLAB, Intel VTune Amplifier
3	Post Graduate Lab – II	Dell Optiplex790MT Core i7 , Desktop Systems – 20 Nos.Corei5 HP Branded DesktopSystems – 17Nos. WiFiZoneavailable	Windows 8, Exata cyber 3.0, Qualnet 5.0, MATLAB, Intel VTune Amplifier

28. Number of Students of the department getting financial assistance from College

Table ER-CSE-30:
Number of beneficiary students

Details	2014-15 Rsin Lakhs	2013-14 Rsin Lakhs	2012-13 Rsin Lakhs	2011-12 Rsin Lakhs	2010-11 Rsin Lakhs
Govt. of India merit cum scholarship	--	0.75	0.80	0.60	0.30
SC & ST		84.83	86.81	81.34	50.47
State Govt. (OBC) OBC,SBC & VJNT scholarship	--	170.57	137.27	47.95	147.00
PST, SST, EBC, EX-SER,JAWAN & FF	--	7.,00	4.12	5.,46	5.15
State Govt. SC & ST Free-ship	--	40.83	17.01	42.23	60.42
Any other – specify (Endowment)	--	1.10	0	1.10	1.10
Management		0.57	0	0.57	0.57

Institute /college get funds and different scholarships (as mentioned above) from Govt. of Maharashtra as well as from Central Govt. of India.

All these funds come in consolidated forms and the records are maintained at Institute level. These funds are distributed among all departments with suitable eligibility students.

29. Was any need assessment exercise undertaken before the development of new program(s)? If so, give the methodology.

M.Tech (CSE) with IT specialization in IT has been started since 2011-12.

For this program Need assessment exercise was based on:

1. Industry demand for IT post graduates.
2. Academic Institutes' demand for IT post graduates.
3. Curriculum design was based on feedback from alumni, R & D agencies, Faculty, Industry etc.
4. Through Board of Studies (BOS) under autonomy of the college, various Meetings were held to finalize the structure and Syllabus of the PG program.

30. Does the department obtain feedback from

a) Faculty on curriculum as well as teaching –learning- evaluation? If yes, how does the department utilize it?

Yes, informal feedback is obtained by the Chairman BOS of the program , from the Department Academic Board members at least once a year. It is then placed before all BOSmembers in BOS meeting generally scheduled once a semester. The consolidated suggestions after approval of BOSare then placed before Academic Council for final approval. The subsequent modifications in teaching-learning as well as evaluation are implemented from the subsequent semester/academic year.

b) Students on staff, curriculum as well as teaching-learning- evaluation and what is the response of the department to the same?

Student's feedback on teaching learning is obtained once in a Semester. The feedback is analyzed and appropriate counselling is provided to improve the concerned individual Faculty, the response of the implementation is good

Alumni and employers on the programs and what is the response of the department to the same?

Alumni and employers feedback forms are obtained once in a year, the response is very good. The feedback gets analyzed and placed before the BOS/DAB of the department for suitable adoptions in curriculum.

31. List the distinguished alumni of the department (maximum 10)

- Mrs.Soudamini Patil – Project coordinator, Infosys, Pune
- Shri. J.G. Kanitkar – Senior Project Consultant, Wipro, (USA) He is with Applied Micro Pune.
- Shri. Tushar Raste – System Analyst, IBM, Pune
- Shri. Rajesh Kulkarni – System Manager, Oracle Inc. USA
- Shri. P.P. Guru – Deputy Manager, Cisco Systems, Bangalore
- Shri. Sourabh Pathak – Senior Project Leader, TCS, Bangalore
- Ms.Tanuja Bapat – Project coordinator, TCS, Pune
- Shri. Rohan Gupta – Project coordinator, IBM, Pune
- Shri. Manoj Patil – Additional Superintendent of Police [SP] , Solapur
- Shri.Jayant Walvekar – Senior Project Manager PSPL, Pune
- Shri. Prasad Deshmukh - Senior Project Manager, Cognizent, Pune

32. Give details of student enrichment programmes (special lectures / workshops / seminar) with external experts.

Lectures and workshops conducted in last 5 years are as follows:

- Prof. Keshav Nori, IIIT Hydrabaddelivered expert lecture on "An Indian View of Software- A Need for Research".
- Prof. Venkyat, Houstan University, USA delivered expert lecture on "Concurrencies in Java".
- Mr.Yashwant Kulkarni , TCS Pune delivered lecture on "Mobile Computing"
- Mr.Girish Kulkarni, IBM, Pune conducted Sessions on Servlets & JSP, Core JAVA (A starter Pack)alongwith HTML& JavaScript.
- Mr.Hemant Kulkarni, City Bank Corporation, USA delivered seminar on "Distributed application Technology".
- Mr.Riyaz Shirguppi, MICROSOFT delivered lecture on "Competitive Exams" like GATE.
- Mr.Ananth Sadanand delivered a lecture on 'Preparation for GRE'.
- Mr.Akshay Bharadia and Mayank Biyani, Accenture, Pune delivered lecture on "Ongoing trends in IT industry".
- Mr.Suhas Desai, Tech Mahindra Pune conducted workshop on "Ethical Hacking".
- Mr.Anup Kulkarni, Infosys, Pune delivered lecture on "Natural Language Processing".
- Mr.Deven Solanki, IBM, Pune delivered lecture on "SAP".

33. List the teaching methods adopted by the faculty for different programmes.

- Students are encouraged to refer books of international standards.
- Usage of interactive / LCD projectors, presentations, videos, other media, charts, models, etc.
- Learning through digital learning resources such as NPTEL, MOOC, Coursera, OCW, edX, IUCEE etc.
- MOODLE as learning management system.
- Arrangement of Expert Lectures / Seminars on current trends and technologies.
- Evaluation through formative assessment.

- Interactive teaching and learning.
- Discussion on latest research topics.
- Following are the teaching methods adopted by the faculty of the department.

  Teaching Methods

Lecture (L)	Group Discussion (GD
Quiz (Q)	Seminar (S)
Team Teaching (TT)	Lab Visit (LV)
Industrial Visit (IV)	Demo

34. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?

A. Attainment of Program Objectives (termed as Program Educational Objectives in our terminology)

By definition, PEOs are the capabilities demonstrated by the graduates of the program after 3-4 years of their graduation. These are as a result of four years of graduation studies in the institute enabling them to acquire graduate attributes as defined through Washington Accord and also the field training of about 3-4 years obtained during work experience of their chosen field of interest. Program Educational Objectives of Computer Science and Engineering Department are as below:

1. To prepare graduates with sound knowledge of fundamentals of basic sciences, computer science and engineering and other relevant disciplines, who can contribute in further advancement of science and technology
2. To equip the graduates with state-of-the-art technologies to become locally pertinent, pro-active, agile, solution provider and globally acceptable engineer
3. To prepare graduates with analytical thinking and reasoning capabilities to formulate, analyze and implement solutions for rapidly changing computing problems and information system environments in software industry
4. To produce graduates who are capable of gauging the impact of computing on society, and possess knowledge of the ethical, social and professional implications/responsibilities of their work, who have effective communication skills, multidisciplinary approach and teamwork spirit
5. To produce graduates who engage in life-long learning to adapt to innovation and change, and are successful in their professional work or higher studies
6. To synonym good entrepreneurship qualities into students

The two assessment tools used to check the attainment of PEOs are

1. Employer Survey Report
2. Alumni Survey Report

Both survey reports consist of 9-10 questions based on articulation of six PEOs, the answers of which indicate the satisfaction level on a scale of 1 to 5 (1 being poor and 5 being excellent) directing us to derive the attainment level of each objective.:

The alumni survey forms are collected during yearly alumni meet, generally held in month of January. Those who cannot attend alumni meet are requested to fill up online survey forms and requested to send it to alumni coordinator. The forms are then analyzed statistically for the attainment of PEOs.

The following process is carried out to obtain employer survey regarding the attainment of PEOs of the program.

1. Asking the HRD officers to give their survey when they visit the campus for recruitment.
2. The employers of the industries are requested to fill up the online survey form available online on institute web site.
3. TPO Coordinator and program member collects the form by personally visiting employers/industries.
4. The sample PDF copies of the filled employer, alumni forms are attached herewith in annexure 'A'.

The forms are then analyzed statistically for the attainment of PEOs.

The statistical analysis of number of such survey reports received from both alumni and employers represents the attainment of program educational objectives and direct us for further action for improvement.

B. Attainment of Program Outcomes:

By definition, POs are the capabilities demonstrated by the students of the program at the time of graduation. Program outcomes of the Computer Science and Engineering department are:

a. An ability to apply knowledge of computing and mathematics appropriate to the discipline
b. An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution
c. An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs
d. An ability to function effectively on teams to accomplish a common goal
e. An understanding of professional, ethical, legal, security and social issues and responsibilities

f. An ability to communicate effectively, both written and oral, with a range of audiences
g. An ability to analyze the local and global impact of computing on individuals, organizations, and society
h. Recognition of the need for and an ability to engage in continuing professional development
i. An ability to use current techniques, skills, and tools necessary for computing practice, including the ability of expressing algorithms in at least two of the most important computer languages currently in use in academia and industry
j. An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.
k. An ability to apply design and development principles in the construction of software systems of varying complexity

These program outcomes are consistent with graduate defined through Washington Accord which have been also accepted by NBA. These POs emphasize on acquiring knowledge (Basic, domain and related engineering sciences), developing skills (professional and technical), and imbibing positive attitude. The attainment of POs related with knowledge is assessed through attainment of course outcomes (COs of each course are mapped to POs) using direct assessment tools like assignments, tutorial, quiz, mid-semester examination, mini-projects, seminars, end-semester examination, laboratory examinations and orals, and indirect assessment tools like course exit survey and graduate exit survey. On the other hand the attainment of POs related with skills and attitude is assessed through rubrics developed by the department, and also through student portfolios giving information about the participation of the students in the co-curricular and extra-curricular activities. The various tools used for assessment are used to track the development of individual student, of a class and finally of a program.

- A sample course outcome report generated after End-Semester Examination based on the analysis of question paper is as follows:

Walchand College of Engineering, Sangli
(An Autonomous Institute)

COURSE EXIT SURVEY

Name of student:

Class and Branch: SecondYear B. Tech. Computer Science and Engineering

Academic Year: 2014-15 ; Semester : II

Course and Course Code:Data Structures(2CS202)

This survey is being carried out for the purpose of obtaining learners' feedback to evaluate the achievement/attainment level of objectives and outcomes of the course. The survey is helpful to improve quality of the course and the programme.
(Please tick mark (√) at appropriate box)

SN		Excellent (5)	Very Good (4)	Good (3)	Average (2)	Poor (1)
1.	Quality of the course content/Syllabus					
2.	Clarity of course objectives					
3.	Clarity of course outcomes					
4.	Quality of assignments, tutorials, examination papers					
6.	Do the questions in the assignments/tutorials, examinations help to evaluate the course objectives and outcomes?					
7.	Level of achievement for Course Outcome (CO)					
	CO 1: Structuring, managing and organizing the data for efficient access and manipulation.					
	CO 2: Identify need of using recursion and write recursive algorithms.					
	CO 3 : Explain and apply linear and non-linear data structures e.g. linked lists, stacks, queues, trees, graphs etc.					

	CO 4 : Identify the appropriate data structures to be used to solve the problems based on ADTs.					
	CO 5 : Compare, analyze and evaluate various methods to solve the problem based on inherent properties of data structures and the complexity of algorithms.					
9.	Overall satisfaction of the course					

Date: Signature of the Student

- A sample of rubric developed for oral communication skills (demonstrated through mini-project, final project and seminars) is as follows:

Criterion No.	**Performance Criteria**	**Excellent**	**Very Good**	**Good**	**Fair**	**Poor**	**Grading on scale 1 to 5**				
							1	**2**	**3**	**4**	**5**
CR_1	Problem Understanding and Requirement Analysis	Very Clear understanding and jotting down the requirements	Clear understanding and jotting down the requirements	Moderately clear understanding and jotting down the requirements	Satisfactory understanding and jotting down the requirements	Does not understand the problem well					
CR_2	Algorithmic Design	Full-proof optimum design	Clear design with minor scope for improvement	Good efforts in design with major scope for improvement	Satisfactory design	Incorrect Design					
CR_3	Methodology and conceptual framework	90 to 100% understanding of concepts and methodology	80 to 90% understanding of concepts and methodology	70 to 80% understanding of concepts and methodology	50 to 70% understanding of concepts and methodology	less than 50% understanding of concepts and methodology					
CR_4	Implementation, technologies used and analysis		Average Coordination of all team members			Poor Coordination of all team members					

Criterion No.	Performance Criteria	Excellent	Very Good	Good	Fair	Poor	Grading on scale 1 to 5				
							1	2	3	4	5
CR_5	Team work	Excellent Coordination with distribution of work amongteam members	Very good Coordination with distribution of work amongteam members	Good Coordination with distribution of work amongteam members	Satisfactory Coordination with distribution of work amongteam members	Poor Coordination with distribution of work amongteam members					
CR_6	Report Writing Skills	Excellent written communication and documentation	Very Good written communication and documentation	Good written communication and documentation	Moderate written communication and documentation	Unsatisfactory written communication and documentation					
CR_7	Verbal communication and skills	Highly convincing presentation, fluency in speech and excellent interaction abilities	Very convincing presentation, clarity in speech and very good interaction abilities	Good convincing presentation, enough clarity in speech and interaction abilities	Fairly convincing presentation, clarity in speech and moderate interaction abilities	Insufficient ability of presentation, speech clarity and poor interaction abilities					
						Total					

Semester wise survey of the attainment of Course Outcomes of all UG and PG programs is discussed in the department meeting. Any gap between expected and attained level is analyzed and the corrective action for the subsequent delivery of such courses is decided.

Regular checks of curriculum delivery, teaching-learning, assessment are carried out by Dean RDQA office while HoD of the department ensures the monitoring of all academic activities throughout the semester with the help of class coordinators. The academic calendar prepared by Dean Academics office is strictly followed. Compensation of any loss of lectures is scheduled on working Saturdays.

35. Highlight the participation of students and faculty in extension activities.

Faculty organizes and attends various workshops as well as faculty development programs for updation of the knowledge. The TPS (Think pair share) activity helps faculties to improve their teaching learning process. Every senior faculty is giving guidance to solve technical problems to junior faculty members. Most of the faculties are carrying out research projects funded by various agencies like DST, AICTE etc.

Various club services are provided by technical clubs formed by each department. Technical clubs like PACE, LUG organizes workshops on current technologies. Expert lectures are also conducted for the students of other department.

36. Give details of "beyond syllabus scholarly activities" of the department.

- Department constantly organizes add on trainings for students such as soft skill trainings, general and technical aptitude.
- Seminars and workshops are arranged to improve the technical skills of the students and to make them aware of current technology.
- Through the MoUs with Industries, Eminent Personalities from Industries are invited to give hands – on training on the latest technologies.
- Webinars organized by IUCEE are displayed to the students.
- Use of virtual laboratories for value addition is promoted among students.

37. State whether the programme/ department is accredited/graded by other agencies. Give details.

Table ER-CSE-31:
Accreditation Details

Date of Application available in the file	Name of the program	Status of Accreditation
28.09.2001	B.E. Computer Science and Engineering	Accredited w.e.f. 07.05.2003 for 3 years
28.11.2006	B.E. Computer Science and Engineering	Accredited w.e.f. 04.05.2007 for 3 years
01.12.2010	B.Tech. Computer Science and Engineering	Provisionally accredited for 2 years from 05.08.2013

- Department awarded with Software Centre of Excellence by IBM.

38. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department

Strengths:

1. Well qualified, experienced and dedicated faculty members.
2. Consistently attracting very good input quality of students across the state of Maharashtra.
3. Use of LMS (MOODLE), MOOC.
4. Faculty is research oriented having research funding from various agencies
5. Laboratories are equipped with state of the art infrastructure.

Weaknesses:

1. Inadequate regularfaculty strength
2. College is at remote place from metro cities. Lacks industrial exposure

Opportunities:

1. Current national thrust on Digital India and international thrust on IoTs
1. Fund raising through consultancy and project work with the help of strong Alumni network.
2. Recognition of inventions using IPR.
3. International collaborations.

Challenges:

1. Competition with world class universities with very good infrastructural facilities
2. Ever changing requirements of IT industry.

39. Future plans of the department.

Long term goals:-

1. To setup the centre of excellence lab in BIG DATA
2. To organize international conference in the field of Computer Science and Engineering.
3. Strengthen PhD and Post-Doctoral Research

Short term goals:-

1. Forming core research groups in the field of Database Engineering, Imageprocessing, High Performance Computing, Cloud Computing.
2. Signing MoUs with industries and institutes for research.
3. Conducting courses on networking, programming and software testing for revenue generation.

Evaluative Report of Information Technology Department

1. Name of the Department & its year of establishment

Department of Information Technology was establish in year 2001

2. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)

UG Programme in Information Technology leads to B.Tech Degree.
PG Programme in Computer Sci. & Engineering (Specialization in Infor. Tech.) leads to M.Tech Degree.

3. Interdisciplinary courses and departments involved

UG Programme: For first year engineering in which concerned departments are involved and the following subjects are offered:
Economics (Humanities), Linear Algebra and Statistics and fuzzy systems (Maths Dept), Industrial Management (Humanities).

PG Programme: Project Management, Research Methodology these are the two subjects which are common to all PG programme.

Table ER-IT-1:
Interdisciplinary Courses

Sr. No	Year	Course Offered	No. of Students
1	2014-15 (sem-I)	Multimedia Techniques	36
2	2014-15* (sem-II)	Internet Communication	10

*due to insufficient count of students course 'Internet Communication 'was not offered.

4. Annual/ semester/choice based credit system

Table ER-IT-2:
Credit System Details

Class	UG: B. Tech								PG: M. Tech			
Year	First		Second		Third		Final		First		Second	
Semester	I	II	III	IV	V	VII	VIII	VI	VII	VIII	III	IV
Credits	21	19	23	23	24	24	23	16	20	20	10	20
Total	Total (UG) = 173								Total (PG) = 70			

5. Participation of the department in the courses offered by other departments

Under Graduate – All in First year (by various departments), Economics (Humanities), Linear Algebra and Statistics and fuzzy systems (Maths Dept), Industrial Management (Humanities), High Performance computing (Comp Sci & Engg)

Post Graduate – Research Methodology, Project Management (Interdisciplinary), Unix Network Programming, Advanced Algorithms (Computer Sci & Engg), All Elective courses (Comp. Sci & Engg)

Table ER-IT-3:
Details of Courses Offered

Sr. No	Year	Course Offered	Offering Dept	Status of Cousre	No. of Students
1	2014-15 (sem-I)	Disaster Management	CIVIL	Offered	26

6. Number of teaching posts sanctioned and filled (Professors/Associate Professors/ Asst. Professors)

Table ER-IT-4:
Details of Teaching Post

Posts	UG		PG	
	Sanctioned	Filled	Sanctioned	Filled
Professors	01	01	1	1*
Associate Professors	03	01	-	-
Asst. Professors	06	6+6*	2	1*

* On Contractual basis

7. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D./ M. Phil. etc.,) (format the table)

Table ER-IT-5:
Faculty Profile

Name	Qualification	Designation	Specialization	No. of Years of Experi_ence	No. of Ph.D. Students guided for the last 4 years
Dr. D. B. Kulkarni	Ph.D	Professor	HPC	25	08 (in progress)
Dr. S.V. Kulkarni	Ph.D	Professor	Wireless Communication , Algorithmic Design, Image Processing	25	NIL
Dr. S. P. Sonavane	Ph.D.	I/C HOD and Associate Professor	Computer Vision, Computer Security, Theoretical Computer Science	20	03 (in progress)
A. J. Umbarkar	M.E.(Compute r Science) pursuing Ph.D.	Assistant Professor	Evolutionary Algo.	13	NIL
R.R. Rathod	M.E. (Computer Science) pursuing Ph.D.	Assistant Professor	Data Mining	13	NIL
U.B.Chavan	M.E. (Computer Science) pursuing Ph.D.	Assistant Professor	HPC	17	NIL
B. S. Shetty	M Tech. (Computer Science)	Assistant Professor	CN	10	NIL
P.K. Kharat	M. E. (Electronics)	Assistant Professor	Electronics-Telecommunica tion	11	NIL

Name	Qualification	Designation	Specialization	No. of Years of Experi_ence	No. of Ph.D. Students guided for the last 4 years
M.B. Narnavare	M Tech. (Computer Science)	Assistant Professor	Theoretical Computer Science, OS related	06	NIL
G.V.Deshpande	M.E. (Computer Science)	Assistant Professor	Database, Image Processing	07	NIL
E.W. Kulkarni	M Tech (Mechatronics)	Assistant Professor	Robotics, Automation Signal Processing, Image Processing, Web Technology, Networking	01	NIL
M.B.Shinde	M.E. (Computer Science(IT))	Assistant Professor	Data Mining	03	NIL
U.S. Pawar	M.E. (Computer Engg)	Assistant Professor	Image Processing	02	NIL
R.A.Mestri	B.E.I.T	Assistant Professor	Programming	04	NIL
A.A.Urunkar	B.E.I.T	Assistant Professor	Networking, Software Engg. , OOMD	2.5	NIL
Y.L.Talekar	B.E. Electronics	Assistant Professor	Microprocessor & Architecture	02	NIL

8. Percentage of classes taken by temporary faculty – programme-wise information

Table ER-IT-6:
Percentage of classes (UG- Sem I)

	FY	SY	TY	BTech	Total
Contractual Faculties	17	47	41	45.5	150.5
Permanent Faculties	7	23	34	83.5	147.5
Total	24	70	75	129	298
Percentage of classes taken by contractual faculty	71%	67%	55%	35%	51%

FY Theory courses are taken by permanent faculties whereas practical batches are handled by contractual faculties. Hence Percentage of classes taken by temporary faculty in FY is higher.

Table ER-IT-7:
Percentage of classes (UG – Sem II)

	FY	SY	TY	Btech	Total
Contractual Faculties	17	44.2	41	15.3	117.5
Permanent Faculties	9	22.8	34	61.3	127.1
Total	26	67	75	76.6	244.6
Percentage of classes taken by contractual faculty	65%	66%	55%	20%	48%

Table ER-IT-8:
Percentage of classes (PG- Sem I)

	FY	SY	Total
Contractual Faculties	11	0	11
Permanent Faculties	58	90	148
Total	69	90	159
Percentage of classes taken by contractual faculty	16%	0%	7%

Table ER-IT-9:
Percentage of classes (PG- Sem II)

	FY	SY	Total
Contractual Faculties	19	0	19
Permanent Faculties	63	90	153
Total	82	90	172
Percentage of classes taken by contractual faculty	23%	0%	11%

9. Programme-wise Student Teacher Ratio

Table ER-IT-10:
UG Student Teacher Ratio

Year	No. of students on roll			Total	N1	STR
	S.Y.	T.Y.	Final Year			
2011-12	77	75	77	229	14	16.36
2012-13	76	75	75	226	15.74	14.36
2013-14	75	77	75	227	16.46	13.79
2014-15	75	72	75	222	15.58	14.25

In above table N1 indicates number of faculties for UG considering fractional load.

Table ER-IT-11:
PG Student Teacher Ratio

Year	No. of student on roll		Total	N1	STR
	F.Y.	S.Y.			
2012-13	17	--	17	6	2.75
2013-14	18	17	35	7	5
2014-15	18	18	36	8	4.5

10. Number of academic support staff (technical) and administrative staff: sanctioned and filled

Table ER-IT-12:
Support Staff Details

Name of Post	sanctioned	Filled
Technical Assistant	NA	02
Lab Assistant	NA	03
Lab Attendant	NA	03

11. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise.

Table ER-IT-13:
Funded R & D Projects

Name of Coordinator/PI	Sponsoring Agency	Thirst Area	Fund (Rupees in Lakhs)	Period	Status
Dr. D. B. Kulkarni	DRDO, Delhi	High Performance Computing	47.0*	2009-12	Completed
Dr. S. P. Sonavane	AICTE (RPS)	Computer Security	8.6	2013-16	In progress
A. J. Umbarkar	TEQIP(SEED)	Optimization	2.6	2014-15	Completed
	Nvidia	GA	0.75	2013-14	In progress
U. B. Chavan	Nvidia	Face Expression Recognition	0.75	2013-14	In progress
P.K.Kharat	TEQIP(SEED)	Mobile Ad-hoc NETwork	3.0	2014-15	In progress

Table ER-IT-14:
Lab Development Details

Name of Proposer	Agency	Thirst Area	Fund (in Lakhs)	Period	Status
Dr. D. B. Kulkarni	DRDO	High Performance Computing	47.0*	2009-12	Completed
	GSU(Georgia state	Parallel	1500$	2013-14	

	University, USA)	Programming			
	National Science Foundation – Early Adapter	Parallel Computing	1500$	2013-14	
	NVIDIA	CUDA Teaching center	2500$	2012-13	
Dr. S. P. Sonavane	TEQIP-II, GS Lab Pune	Content Creation	12.0	2013-14	Completed
	AICTE-MODROB, New Delhi (In association with CSE Dept.)	Multimedia & Computer Graphics	7.0	2012-13	Completed
		Theoretical Computer Science	13.2	2013-14	
Mr. R. R. Rathod	AICTE-MODROB, New Delhi (In association with CSE Dept.)	Data Mining	17.0	2013-14	Completed
Mr. P. K. Kharat	PerCom Industries Pvt. Ltd, Kolkata	Wireless Sensor N/W	4.0	2012-13	Completed
	TEQIP-II, National Instrumentation, Bangalore	Robotics	4.0	2014-15	In Progress
Mr. U. B. Chavan	GSU(Georgia state University, USA)	Parallel Programming	1500$	2014-15	Completed

12. Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received

Table ER-IT-15:
Departmental Projects

Name of Coordinator/PI	Sponsoring Agency	Thirst Area	Fund (in Lakhs)	Period
A. J. Umbarkar	TEQIP(SEED)	Optimization	2.6	2014-15
	Nvidia	Genetic Algorithm	0.75	2013-14
U. B. Chavan	Nvidia	Face Expression Recognition	0.75	2013-14
P.K.Kharat	TEQIP(SEED)	Mobile Ad-hoc Network	3.0	2014-15

13. Research facility / centre with

- State recognition -- NIL
- National recognition -- NIL
- International recognition -- NIL

Few of the departmental faculties guide the Ph.D. students registered under Shivaji University, Kolhapur and QIP as Walchand College of Engineering, Sangli as center in CSE/IT

14. Publications:

- **Number of papers published in peer reviewed journals (National / International)**

  Details of publications are attached in Annexure A

- **Monographs** - Nil
- **Chapter(s) in Books** – Nil
- **Editing Books** – Nil
- **Books with ISBN numbers with details of publishers** – Nil
- **Number listed in International Database (For *e.g.* Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)**
- **Citation Index – range / average** – Nil
- **SNIP** – Nil
- **SJR** – Nil
- **Impact factor – range / average** – Nil
- **h-index**

Table ER-IT-16:
Citations & h-index of Faculty Publications

Sr. No	Faculty Name	Total Publications	CAY 2014-15	CAYm1 2013-14	CAYm2 2012-13	CAYm3 2011-12	Citations	h-index
1	Dr. S.P. Sonavane	10	3	4	2	1	9	2
2	Dr. D.B. Kulkarni	6	1	1	3	1	31	3
3	Mr. A.J. Umbarkar	11	6	3	1	1	22	3
4	Mr. U. B. Chavan	3	-	3	-	-	3	1
5	Mrs. B. S. Shetty	2	-	1	1	-	6	1
6	Mr. P. K. Kharat	10	2	5	1	2	4	1
7	Mr. M.B. Narnaware	5	-	-	3	2	6	1
8	Mr. E.W. Kulkarni	5	4	1	-	-	-	-
9	Ms. U. S. Pawar	2	1	1	-	-	2	1

14. Details of patents and income generated

- Applied for Patent File No. 1120/MUM /2012, “Process for Image Authorization, Authentication and Integrity Check” Dr. S. P. Sonavane

16. Areas of consultancy and income generated

Table ER-IT-17:
Consultancy Details

Description	Fund Generated Approx. Rs. in Lakhs
Online Examination Center – GATE, SBI, MKCL	**10.00**
Feedback analysis for TEQUIP Institutes	**0.10**
Moodle installation & Training	**0.10**
Inhouse hardware and Networking Support	**1.0**

17. Faculty Recharging Strategies

Following is a list of strategies by the institute to recharge the faculties:

- Arranging seminar, workshops for all faculty members every year which can promote skill up gradation and make them informed of the current teaching-learning methodologies-FDP
- Implementing TPS- Think Pair Share scheme among the faculty members to get added inputs from the other faculty members.
- Training & skill up gradation of junior faculty by senior faculty.
- Making Interaction with industry to adopt the industry standards in the teaching process to get aquatinted with the latest industry standards.
- Awarding one faculty from the college with the best teacher award on the annual day function.
- Encouraging faculties and providing facilities to present papers at international conferences under TEQIP.
- Providing necessary infrastructure to upgrade knowledge and / or skills.
- Allowing faculty members to pursue PhD under Quality improvement Programme (QIP)
- Recognizing additional work carried out by giving Incentives.
- Providing lab facilities even after office hours.
- Encouraging faculties to attend the lectures by IIT faculty during summer and winter courses organized through National Mission on Education Through ICT

sponsored by MHRD New Delhi.

18. Student projects

Table ER-IT-18:
Major Projects (UG)

No. of Students	in-house projects including inter-departmental	projects in collaboration with industries / institutes	In-house projects including inter-departmental (%)	Projects in collaboration with industries/ institutes (%)	Sponsoring Industry/ Institutes
75	**52**	**23**	**69.33**	**30.66**	Persistent, Symantec, Zealema Joash, SandRiver

Table ER-IT-19:
Industry sponsored Mini projects

Year	Area of Work	Sponsoring industry	No. of students
2013-14	Web Technology	Miraj Book House	3
2012-13	Automation and Design	Suryawanshi construction Pvt. Ltd.	3
		Industrial School Sangli	3
		Vita Corporation Ltd.	3
2011-12	Design and Development	Chougule Industries	3

Table ER-IT-20:
Major Projects (PG)

No. of Students	in-house projects including inter-departmental	projects in collaboration with industries / institutes	In-house projects including inter-departmental (%)	Projects in collaboration with industries / institutes (%)	Sponsoring Industry/ Institutes
18	5	13	27.77	72.22	TIBCO,C-DAC, DRDO, IITB,IITG

Sponsored Project at Industry (SPAI) Policy:

This program has been implemented from current academic year (2014-15) for UG students. As per this policy UG students can pursue the sponsored projects at industry for full 8th semester. Accordingly 23 students got sponsored projects with

duration of minimum 3 months executing at the site of concerned industries.

This policy has been introduced to widen the perspective of the students and to develop professional skills in them

The structure of the curriculum is accordingly modified to complete the course work by 7th semester.

19. Awards / recognitions received at the national and international level by

Table ER-IT-21:
Faculty Awards

Sr. No.	Name of Faculty	Name of award/recognition	Institute/ National/ International	Year of achievement
1	Dr. D. B. Kulkarni and U. B. Chavan	Early Adopter Award from TCPP of IEEE ($1500)	International	2013-14
2	A. J. Umbarkar and U. B. Chavan	high performance GPGPU – Titan card of Rs. 1 Lakh N-Vidia research on Evolutionary algorithm.	National	2013-14
3	Dr. S. P. Sonavane	Best Teacher	Institute	2009-10
4	Dr. D. B. Kulkarni	Best Teacher	Institute	2012-13
5	R. R. Rathod	Best Teacher	Institute	2011-12

Table ER-IT-22:
Faculty Recognitions

Sr. No.	Name of faculty	Award/recognition	Status
1.	Dr. S.P.Sonavane	Ph.D. Guide	By Shivaji University, Kolhapur
2.	Dr. D.B.Kulkarni	Ph.D. Guide	
3.	Mr. A.J.Umbarkar	Post graduate teacher	
4.	Mr. U.B.Chavan	Post graduate teacher	
5.	Mr. P.K.Kharat	Post graduate teacher	

- **Doctoral / post doctoral fellows**

  Dr. D. B. Kulkarni – working as Professor, IT Department has concerned Postdoctoral Work on Grid Computing at Dept. of Computer Science, University of New Brunswick Fredricton, Canada, for a period of a year 2007-08

- **Students**

Table ER-IT-23:
Students Awards

Year	Student name	Prizes and Awards
2013-14	Arun Chougule	WCE best student award TCS best outgoing student award
2012-13	Mr. Ravindra Lingampeth Mr. Sachin Bhise	Second in TCS- TESTimony software testing Competition

Table ER-IT-24:
Student Achievements

Year	Students' Name	Rewarded By (Company Name)	Achievements /Prize
2014-15	Manish Nikam Kushal Kale	MindSpark, COEP, Pune	First
	Mahesh Bhosale Kartik Satoskar	MindSpark, COEP, Pune	Second
2013-14	Mr. Vinayak Kadam Mr. Sharad Bhagwat	Mobiwiz Competition, TCS	Sixth (All over India)
2012-13	Mr. Ravindra Lingampeth Mr. Sachin Bhise	TCS- TES Timony software testing Competition	Second (All over India)
2011-12	Dnyaneshwar Suryavanshi Amol Manthalkar (Alimni)	MacDynaSa System	Entrepreneur

20. Seminars/ Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any.

Table ER-IT-25:
Workshops & Training Programs

Year	Title	Organized & Funding	Duration	Number of participants
2014-15	Algorithmic Game Theory	DST	8 -12 Dec 2014	63
2013-14	Advance data structure and practices	TEQIP	7-11 Apr 2014	75

	Mobile Ad-Hoc and sensor network	TEQIP	9-13 Jan 2014	61
	FDP on HIGH PERFORMANCE COMPUTING	TEQIP	1-7 July 2013	38
2012-13	Database Management System	ISTE, IIT Mumbai	21-31 May 2013	36
	Writing Effective Conference Papers	ISTE, IIT Mumbai	February 2012	80
2011-12	Advanced Software Testing	ISTE, IBM	December 2011	40
	Database Management System	ISTE, IIT Mumbai	Dec 2010	35
	Wavelet Theory and Applications	IUCEE, Lead College SUK	January 2010	30

Table ER-IT-26:
Workshops and Seminars

Module Description	Any other contributory Inst./ Industry	Duration	Resource Persons	Target Audience
2014-15				
Game Theory	IMPECS	1 week	Nicole Immorlica	Faculty and PG Students (WCE+ Other Universities)
2013-14				
Cloud computing	TEQIP-II	1 week	Dr. Soham Sohani, Arizona University, USA	Faculty and UG/PG Students
Functional Programming (Java 8)	TEQIP-II	1 Day	Dr. Venkat Hoston University, USA	UG students
Mobile Ad-Hoc and Sensor Network	TEQIP-II	1 week	Dr. Mohit Tahiliyani, NITK	UG, PG students

High Performance Computing	TEQIP-II	1 Day	MandarGurav, IITB	UG students
Open GL	DRF	1 Day	Suhas Sapate, AMCOE	UG students
2012-13				
Fuzzy Application	Ex-Professor, Civil Dept. COEP Pune	1 Day	Dr. Ashok Deshpande, COE, Pune	Faculty and UG/PG Students
Hadoop and Map Reduce	DRF	1 Day	Suhas Gogate, Yahoo, USA	
Cloud Comp_ uting Challenges & Opportunities	DRF	1 Day	Jayant Walvekar, PSL, Pune	
Software paradigms	Faculty from USA	1 Day	Dr. Venkat Hoston University, USA	Faculty and UG/PG Students
Research opport. unity in DRDO	DRDO Expert	1 Day	Prof. Vijay Singh	
Research in Defense	DRDO Expert	1 Day	Cdr. Thakur	
HPC	IITB Faculty	1 Day	Prof. Dr. B. R. Sule	
GPGPU Technology	NVIDIA, Pune Expert	1 Day	Prof. Jaya Panvalkar	
Software Engineering	Expert from NewZealand	1 Day	D. M. Deshpande, Govt. of New Zealand	
(2011-12)				
Opportunities in DRDO Research projects	DRDO Experts	1 Day	Cdr. Suresh Thakur, ER, DRDO	UG,PG students

21. Student profile course-wise:

Table ER-IT-27:
Course-wise Student Profile

Name of the Course (refer question no. 2)	**Applications received**	**Selected**		**Pass percentage**	
		Male	Female	Male	Female
B.Tech IT	NA	37	29	94.59	96.55
M.Tech CSE(IT)	NA	11	6	100	100

22. Diversity of Students

Table ER-IT-28:
Students Diversity

Year	Name of the Course	% of students from the college	% of students from the state	% of students from other states	% of students from other countries
2014-2015	B.Tech IT	0	100	0	0
	M.Tech CSE (IT)	0	100	0	0

23. How many students have cleared Civil Services, Defense Services, NET, SET, GATE and any other competitive examinations?

Table ER-IT-29:
Competitive Exam Details

Year	Competitive exam					
	Civil Services	Defence Services	NET	SET	GATE	GRE
2014-15	NA	NA	NA	NA	02	03
2013-14	NA	01	NA	NA	04	00

24. Student progression

Table ER-IT-30
Student progression

Student progression	Percentage against enrolled
UG to PG	10 %
PG to M.Phil.	NA
PG to Ph.D.	5%
Ph.D. to Post-Doctoral	NA
Employed • Campus selection • Other than campus recruitment • Higher Education	 90 % 8% 2%
Entrepreneurs	3%

25. Diversity of staff

Table ER-IT-31:
Staff Diversity

Percentage of faculty who are graduates	
of the same parent university	08
from other universities within the State	07
from other universities from other States	01

26. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period.

One faculty from the department named Dr. Shefali. P. Sonavane was awarded Ph.D. degree in October 2010

27. Present details about infrastructural facilities

a) Library (Departmental)

Total Books = 514
a. Technical = 464
b. Non-Technical = 50

Total Project Reports = 131

b) Internet facilities for staff and students

Band Width = 200 & 80 MBps

Compression Ratio = 1:1
Company = Railtel /Reliance
Band width Management = Elite core & Cyberom

c) **Total number of class rooms** - 2 Nos.

d) Class rooms with ICT facility

Table ER- IT-31:
Class Room Details

Description	Usage	Type	Capacity	ICT facilities	Size (sqm)
Class Room No.N2	Teaching	Exclusive	80	LCD,white/black Board,, Internet wired and/or wireless, Audio video aids,	81
Class Room No. 22	Teaching	Exclusive	80	LCD,white/black Board,, Internet wired and/or wireless, Audio video aids,	70
Class Room No. N1	Teaching/ PG Project	Exclusive	60/10	LCD,white/black Board,, Internet wired and/or wireless, Audio video aids,	27.8
Seminar Room	Presentation	Exclusive	40	Projector, White Board, Internet connectivity for Presenter	78

Table ER-IT-32:
Laboratory Details

Unix Lab		
IP Address	10.10.13.75 to 10.10.13.95	25 System AMD Processor3.2 GHz 4GB RAM
Software	Linux:- Eclipse, netbeans,firefox,chrome,QT, rational rose, BlenderWindows:- Eclipse, netbeans,firefox,chrome,Office 2010, blender, Dos Box, JDK 7.0	
Area Size	14x30 ft.	
Multimedia Lab		
IP Address	10.10.13.117 to 10.10.13.133	25 System Intel core i5 Processor3.2 GHz 2GB RAM
Software	Linux:- Eclipse, netbeans,firefox,chrome,QT, rational rose, Blender Windows:- Eclipse, netbeans,firefox,chrome,Office 2010, blender, Dos Box, JDK 7.0	
Area Size	14x30 ft.	

Programing Lab		
IP Address	10.10.96.130 to 10.10.13.113	25 System AMD Processor 3.2GHz 4GB RAM
Software	Linux:- Eclipse, netbeans,firefox,chrome,QT, rational rose, Blender Windows:- Eclipse, netbeans,firefox,chrome,Office 2010, blender, Dos Box, JDK 7.0	
Area Size	14x30 ft.	
Microprocessor Lab		
IP Address	10.10.13.161 to 10.10.13.181	20 System Intel core i5 Processor2.50 GHz 4GB RAM Touch Screen
Software	Linux:- Eclipse, netbeans,firefox,chrome,QT, rational rose, Blender Windows:- Eclipse, netbeans,firefox,chrome,Office 2010, blender, Dos Box, JDK 7.0	
Area Size	15x30 ft.	
M.Tech CSE/IT-PG Lab		
IP Address	10.10.5.100 to 10.10.5.130	20 System Intel core i7 Processor3.1 GHz 12GB DDR3 RAM
Software	Linux:- Eclipse, netbeans,firefox,chrome,QT, rational rose, Blender Windows:- Eclipse, netbeans,firefox,chrome,Office 2010, blender, Dos Box, JDK 7.0	
Area Size	12x25 ft.	
NVidia Lab (CCF Phase II)		
IP Address	10.10.2.130 to 10.10.2.150	20 System Intel , 2 GB RAM, 4GB NVidia GTex 745 Card
Software	Linux:- Eclipse, netbeans,firefox,chrome,QT, rational rose, Blender Windows:- Eclipse, netbeans,firefox,chrome,Office 2010, blender, Dos Box, JDK 7.0	
Area Size	12x36 ft.	

Table ER-IT-33:
Infrastructure to provide IT services to Institute Data Center

IT Rack2	Hardware Specification	Software/Services
1.Supercom Server IP Address: 10.10.13.16	AMD Opteron(tm) Processor 6320 , 32 cores, 16 GB RAM, 128 SSD, 2 TB Storage.	CentOS 6.3 OS, Moodle 2.5 + Stable Campus Moodle Server.
2. Supercom Server	AMD Opteron(tm)	File Server (FTP)

IP Address: 10.10.13.13	Processor 6320 , 32 cores, 16 GB RAM, 128 SSD, 2 TB Storage.	CentOS 6.3 OS, OpenBiblio- Departmental Library, OpenFire – Chat Server, Nagios- Server Monitoring Tool, RackTables- Asset Managment Tool
3. Supercom Server IP Address: 10.10.13.12	AMD Opteron(tm) Processor 6320 , 32 cores, 16 GB RAM, 128 SSD, 2 TB Storage.	Database Server
4. CUDA Servers 10.10.13.18	Intel(R) Xeon(R) CPU E5520 @ 2.27GHz, 8 cores, 16 GB RAM, 500 GB Storage, NVIDIA Corporation G98 [Quadro NVS 295] Graphics Card	CentOS 5.9 Open MPI
5. CUDA Servers	Intel(R) Xeon(R) CPU E5520 @ 2.27GHz, 8 cores, 16 GB RAM, 500 GB Storage, NVIDIA Corporation G98 [Quadro NVS 295] Graphics Card	CentOS 5.9 Open MPI, Feedback Server Emerson Liebert PSI UPS
6.Emerson Liebert PSI UPS	20KVA UPS	Backup System For All Server in IT Data center .

28. Number of students of the department getting financial assistance from College.

- Funding for Industrial Visit of each UG and PG class is provided by the college through TEQIP-II Funding. Total number of students 240.
- Non sponsored non gate PG students will avail financial teaching assistantship from college through TEQIP-II Funding. Total number of students 15.
- Registration fees of conference paper of students are provided by the college through TEQIP-II Funding. Total number of students 80.

29. Was any need assessment exercise undertaken before the development of new program(s)? If so, give the methodology.

The institute has become autonomous since 2007-08. After autonomous status the curriculum was designed at the institute level. Academic Programs are governed by the Rules and Regulations approved by the Academic council from

time to time. The Academic council continuously monitors these programs and makes appropriate modifications/improvements as and when required.

UG IT programme started in 2001.

PG CSE(IT) Programme started in 2012

Need Assessment:

While interacting with the alumni and stakeholders of the department, the need of new PG programme in Computer Science (Specialization in IT) was felt. PG programme supports the UG academics in various ways like inculcating research, improvement in course delivery.

As an outcome, proposal for initiating new programme in M.Tech. CSE(IT) was submitted to AICTE through DTE. This was approved by the authorities and the programme started in 2012-13.

Process for Defining Curriculum

Proper planning, design and implementation of entire curriculum, keeping in mind the logical sequence of course introduction, their depth and breadth is very important for the success of students. Department follows a well-defined procedure for defining curriculum. The logical steps followed for this are as follows:

- Various inputs from earlier defined PEOs, POs and guidelines from dean academics are considered for brain storming sessions.
- The concerned course faculty and the colleagues in the department, outline the course structure.
- This team of experts, in a series of brain storming sessions, discusses and prepares a draft of curriculum.
- The draft prepared is then reviewed in DAB meetings. The positive and negative aspects of proposed curriculum are studied in details by DAB and modifications, alterations if any are recommended. The approved draft is then given to expert course faculty for preparation of detailed curriculum.
- In case DAB, upon review of draft, finds need for revision, the draft is again discussed by expert course faculty and modifications are done to incorporate the DAB suggestions.
- The structure and detailed course curriculum is then presented to DAB for the approval.

- The DAB approved draft curriculum is then presented to institutes academic council for final approval.
- Academic council, if requests some modifications in the detailed curriculum, this is sent to DAB for necessary action.
- The curriculum, thus fine-tuned at different stages by course faculty, group of departmental experts, DAB and academic council is then offered to students and published for stake holders on institute website.

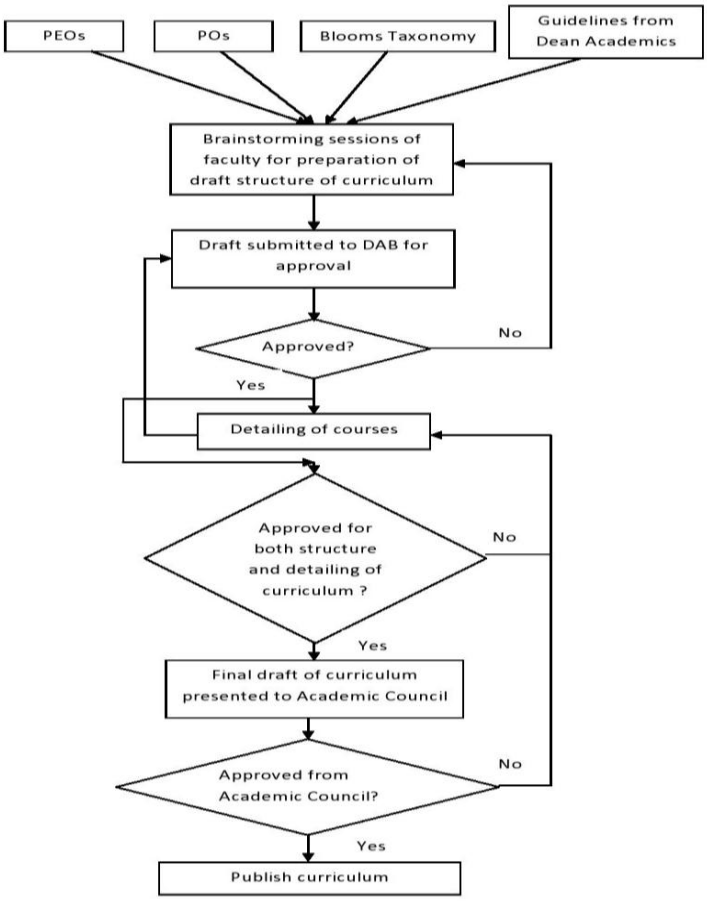


Fig: Process employed for designing the programme curriculum

30. Does the department obtain feedback from:

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?

Yes, Faculty with respected specialization checks the current syllabus and suggests the changes to be made and these are discussed in BOS Meeting and is modified accordingly.

b. Students on staff, curriculum as well as teaching-learning-evaluation and

what is the response of the department to the same?

Yes, Feedback from students on faculty is used to know the strengths and weaknesses of a faculty member.

Feedback from students on curriculum and teaching learning process is used to improve the curriculum and teaching learning process respectively.

c. Alumni and employers on the programmes and what is the response of the department to the same?

Department gives first preference to suggestions made by the industry employers and alumni. Hence department fills the gap between theory and practical orientation to the students.

Following measures are taken to improve courses and curriculum

- Improvement in courses and curriculum is done in line with Vision, Mission, PEOs and POs of the department.
- Inputs from the IITs and international educational institute's curriculum are taken.
- Nature of the competitive exams viz. GATE is taken into account.
- By taking feedbacks from the alumni who admitted for higher studies.
- After consulting with the alumni who are successful entrepreneurs.
- Demand and requirement of the industry in current scenario.
- Feedbacks about the curricula from the alumni during alumni meet.
- Data related to participation of the students in co-curricular activities and their success.
- Comments from the experts from the industry.
- Comments from the external examiners.
- Feedback from the industries conducting regular campus recruitment.
- Formal or informal discussions with the stake holders of the program guide the program to find out the gaps in curriculum and give a chance to bridge those in subsequent semester.

31. List the distinguished alumni of the department (maximum 10)

Table ER-IT-34:
Alumni List

Sr. No	Name	Year	Past	Now
1	Dayanand Natu	2007	Technical Lead at Barclays Technology Center India	Cognizant Technology Solutions
2	Prateek Ambani	2007	HSBC Global Technology India	Senior Software Engineer at HSBC Global Technology India
3	Aalap Mhatre	2007	Cognizant Technology Solutions, AFTEK LTD	Senior Consultant at Capgemini
4	Vijay Borhade	2007	IBM Global Services Pvt. Ltd, Pune.	Sr. Analyst at Accenture Services Pvt. Ltd, India.
5	Amit Jambure	2007	Druva, Qualex Systems, Symantec	Member of Technical Staff at Nutanix
6	Shantanu Pandit	2006	Senior Software Engineer at Newgen Software Technology	Team Lead at Bank of New York Mellon
7	Mayur Singru	2008		Net-Square Solutions Pvt Ltd
8	Mayur pise	2005	Symantec private Ltd.	Sr. SQA Engineer | Test Developer | Virtualization & cloud enthusiast
9	Nitin Gaikwad	2006	Persistent Systems	Persistent Systems
10	Sayali Dhopeshwarkar	2009	Flipkart, Carving IT, AFour Technologies	Product Solution Engineer II at Flipkart
11	Sandesh Patil	2011	Indian Institute of Management, Kozhikode, Mahindra Comviva, Infosys	Associate Manager at Lenovo

32. Give details of student enrichment programmes (special lectures / workshops / seminar) with external experts.

Table ER-IT-35:
Entrepreneurship Guest Lecturers

Year	Event/Resource Person	Topic	Date
2014-15	Mr. Shailesh Patil, Senior Researcher, WhiteField Banglore	Research Opportunities in Biological Sciences	23 Jan 2015
	Mr. Arun Chougule, Lieutenant	Opportunities and challenges in Indian Army	7 Jan 2015
	Mrs. Shweta Jadhav Desai Fomer CEO, Marvelous Motors Pvt. Ltd.	Techno-Tweet	14 Mar 2015
13-14	Mandar Gurav, IITB.	High Performance Computing (HPC)	13 Sep 2013
12-13	Neha Wagh (HR), TCS Pune	One Day workshop on Soft skill.	13 July 2012
	Mohan Mardikar (Sr. Consultant), TCS Pune	Latest Trends In IT	4 Feb 2012

33. List the teaching methods adopted by the faculty for different programmes.

The programme courses are divided into five categories as per the general guidelines of the syllabus designing. With the help of teacher's and students' feedback, the convenient aid of course delivery is analyzed and the expected choices are given in the table below

Table ER-IT- 36:
Teaching Method Details

Sr. No.	Teaching Method	Course Category				
		Computational Mathematics	Core Courses	Interdisciplinary Courses	Elective Courses	Lab Courses
1.	Chalk Board (CB)	33%	20%	13%	17%	6%
2.	Interactive Board / PPT	7%	17&	14%	11%	8%

Sr. No.	Teaching Method	Course Category				
		Computational Mathematics	Core Courses	Interdisciplinary Courses	Elective Courses	Lab Courses
3.	Visualizer,	13%	8%	13%	6%	5%
4.	Animation Simulation and Video Films (VF)	9%	11%	11%	7%	9%
5.	Online Tutor	13%	9%	5%	7%	5%
6.	MOOC (Massive Open Online Course)	3%	9%	8%	10%	6%
7.	Split Lectures	6%	5%	4%	10%	6%
8.	Group Discussions (GD)	2%	4%	12%	7%	4%
9.	Guest Lectures and Seminars	6%	9%	13%	18%	5%
10.	Model and Demonstration	7%	3%	5%	2%	14%
11.	Mini-projects and Projects	1%	3%	1%	4%	26%
12.	Industrial Visit (IV)	0%	2%	2%	2%	6%

It is seen from the above table that there is no unique practice to any of the teaching method for any of category of the courses. The teacher has to use (and is using) a blend of above methods depending upon the content to be dealt with a particular course and class.

34. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?

The Programme educational objectives and Programme Outcomes defined for the UG programme in Information Technology are as follows:

Table ER-IT-37:
Programme Educational Outcomes (PEOs)

At the time of graduation Student will	
PEO1	Demonstrate technical competency by applying knowledge to solve problems related to engineering issues.
PEO2	Exhibit skills and appropriate attitude to succeed in their professional career.
PEO3	Display thirst for emerging technologies and quest for innovation with concern to society and environment.

Programme Outcomes (POs):
At the time of graduation a student of IT department will have

a. an ability to apply knowledge of mathematics, science and engineering
b. an ability to design and conduct experiments, as well as to analyze and interpret data
c. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
d. an ability to function on multidisciplinary teams
e. an ability to identify, formulate, and solve engineering problems
f. an understanding of professional and ethical responsibility
g. an ability to communicate effectively
h. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
i. a recognition of the need for, and an ability to engage in life-long learning
j. a knowledge of contemporary issues
k. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice
l. an ability to effectively integrate IT based solutions. (PSPO)

Programme outcomes are in lined with graduate attributes defined through Washinton accord. The mapping between Gas and POs is given in the following table.

Table ER-IT- 38:
POs in line with the Graduate Attributes

Sr. No.	Graduate Attributes	Pos
1	Engineering knowledge	a, b, e, l
2	Problem Analysis	a, b, c, e , l
3	Design / Development of Solution	a, b, c, e, l
4	Conduct investigation of complex problems	a, b, c, e, j
5	Modern tool usage	k
6	The Engineer and Society	h, l
7	Environment and Sustainability	i, h
8	Ethics	f
9	Individual and teamwork	d
10	Communication	g
11	Project Management and Finance	l
12	Life-long Learning	j

As per the AICTE Syllabus designing guidelines, the WCE IT programme credits are calculated and are summarized with relevant matches of defined POs and PEos.

35. Highlight the participation of students and faculty in extension activities.

Table ER-IT- 39:
Student Association Details

Name of the student associations	Details	Resource Person
Student Association of Information Technology (SAIT)	Group formed by students of IT to conduct various technical activities for the benefits of the students. • Conducts weekly club services which include programming, communication skill development, Quiz, aptitude test. • Organizes state level events once per every semester to enhance their skill.	1) Advisor (Teacher) 2) H.O.D. 3) Dean of Students

Name of the student associations	Details	Resource Person
VISION	It is the institute level technical symposium which is held in February/March every year. This includes paper presentation, project presentation, and poster presentation.	
Walchand Linux User Group (WLUG)	This is a group formed by students of IT and CSE to use and promote Linux future and interesting stuff. This group conducts • Weekly club services on Linux and programming in Linux. • State level workshop on Linux to enhance their knowledge about Linux.	1) Advisor (Teacher) 2) H.O.D.

Table ER-IT- 40:
WLUG/SAIT Annual Activities (2014-15)

Sr. No.	Event	Date	No. Of Participants	Conducted By
1.	Wordpress	07/01/15	31	Vinayak Kadam Sharad Bhagwat
2.	Shell Scripting	16/01/15	30	Chandni Patil Ujwala Gavit . Sadhana Kale
3.	Parallel Programming	22/1/2015	36	Bhagyashri Bhirud Bhushan Gunjal
4.	Blender Workshop at annasaheb Dange COE, Ashta	28/07/14	60	T.Y.(IT) students
5.	CS1:Booting	06/08/14	71	Vidya Dhapate Dhanashri Chavan Govind Rathi
6.	CS3: Basics Of Network & SiteCloning	20/08/14	31	Nisha Chaughule, Swati Jadhav Shivali Pawar
7.	Stegnography	11/9/2014	32	Rushikesh

Department follows the practice of visiting industries as a part of extra curriculum. Every year students visit the industries mentioned below with faculties to have a industry exposure. The industries generally visited are

- Directorate of Forensic Science, Mumbai
- Persistent, Pune
- TCS, Bangalore
- HAL,IT Park, Bangalore

Table ER-IT- 41:
Departmental / Institutional Committees for academic year 2014-15

Name of the Faculty	Committee
Dr. D. B. Kulkarni	• HOD (Till Jan. 2015) • CCF In-charge • Academic Council Member
Dr. S. P. Sonavane	• I/C HOD (From Jan. 2015) • Anti-Sexual Harassment Committee member
Dr. S. V. Kulkarni	• Web Development team I/C • College Magazine Committee
A. J. Umbarkar	• Dept. PG Co-ordinator • College Gymkhana Co-ordinator • Academic audit member • Dept Time-Table In-charge, • Dept Purchase Committee member
U. B. Chavan	• CCF Co-ordinator till Dec. 2014 • Academic Auditor • WLUG Staff Advisor • TY Class Teacher & Mentor
B. S. Shetty	• Dept Academic Co-ordinator • NAAC Dept Co-ordinator • BTech Class Teacher & Mentor
P. K. Kharat	• NBA Co-ordinator • SAIT Staff Advisor
M. B. Narnavare	• Dept. Exam Co-ordinator,

36. Give details of "beyond syllabus scholarly activities" of the department.

Table ER-IT- 42:
Beyond Syllabus Scholarly Activities

Sr. No.	Activity	Description
1.	MOOC	A massive open online course (MOOC) is an online course aimed at unlimited participation and open access via the web for the students.
2.	Open Source software/ Tools	Every Lab uses Open Source software/ Tools which are freely available to students.
3.	Mini-projects & competitions	Mini-Projects are introduced to enhance the practical skills of students. It provides the opportunity for Students to demonstrate independence and originality, to plan and organize a large project over a long period, and to put into practice some of the techniques taught throughout the course.
4.	Communication Skill Sessions	Every first lecture have a Communication Skill Session for students to improve English, stage daring & self confidence
5.	Practice based Projects	Practice based Projects are introduced to enhance the practical skills of students with design experience.
6.	Expert Lecture	Expert Lectures organized every semester for almost every course.

37. State whether the programme/ department is accredited/ graded by other agencies. Give details.

Applied for NBA in June 2014 and expecting in August 2015.

38. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department

Table ER-IT- 43:
Strengths, Weaknesses, Opportunities and Challenges (SWOC)

STRENGTH	WEAKNESSES
• Availability of high bandwidth internet with organized ramework/infrastructure • Usage of labs 24x7 and managed lab issues by students as Admin Committee • Routine practice and use of adequate Open Source S/W and Moodle based activities • Assistance and support to institute level CCF (Central Computing Facility) and Data Center • Young and enthusiastic faculties who are flexible to accept academic revamping	• Lack of communication skill in students due to their rural background • Difficulties in getting company sponsored projects because of geographical location is far away from metro cities • Shortage of highly qualified faculty • Less retention ratio for contract faculty resulting in lower faculty student ratio • Less percentage of IT management and auditing courses in syllabi
OPPORTUNITIES	**CHALLENGES**
• Expertization toward handling thirst areas related to Big data/Hadoop, HPC, and data digitization • Development of academic CLOUD and IT enabled services providing system • Provision for Online Examination and submission setups/practices by use of infrastructure • Expansion of In-house consultancy and training • Improvement in Industry Integration Program (IIP) through MOUs, Student Internships and faculty sabbaticals	• Uphold the remarkable academic competency with reputed universities. • Affiliation to MOOC Programs supporting /extending the programme syllabi • Special efforts on preparing Industry ready students with enough practical skills • Improvement in communication and presentation skills of students • Motivation to students for higher education

39. Future plans of the department.

Table ER-IT- 44:

Future Plans

Short Term	Long Term
Technical Infrastructure & Set Up: - A private academic CLOUD - Data Storage and Management Center Data Mining, Robotics Computer Vision, N/w & digital security/ forensics lab	Setting Up e-learning and certification centre with Digital Factory
IPR & Technical writing: - book articles, columns - IEEE journal/transaction paper - Copyrights & Patents	Developing think tanks supporting research Incubation center
Improving students' skill-sets: - Formation of a students' chapter ISACA / CSI - Corporate and Soft Skill Trainings	Establishing Cloud service Center

Walchand College of Engineering, Sangli

(An Autonomous Institute)

Vishrambag, SANGLI-416415 (M.S.), India

Website : www.walchandsangli.ac.in

Email : director@walchandsangli.ac.in, walchand@rediffmail.com

Director +91-233-2303433 Office +91-233-2300383 Fax : +91-233-2300831

Declaration by the Head of the Institution

I certify that the data included in this Self-study Report (SSR) are true to the best of my knowledge.

This SSR is prepared by the institution after internal discussions, and no part thereof has been outsourced.

I am aware that the Peer team will validate the information provided in this SSR during the peer team visit.

WALCHAND COLLEGE OF ENGINEERING SANGLI

15/05/2015

DIRECTOR

Place: Sangli

Date: 15/05/2015

Annexure A

List of Faculty Publications

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
Civil Engineering				
1	Munavalli, G. R. and Vareker,V. M	2010	Performance of seed extracts for water softening	42nd Annual Convention of Indian Water Works Association., Jodhpur, India, 29th, 30th and 31st January, 2010
2	P.G.Sonavane	2010	Performance of Biological Aerated Filter for the treatment of domestic wastewater	
3	Amruta Patel & P.G.Sonavane	2010	Generation and Characterization of Waste in Hindu Temples in	Natural Resource Management for Sustainable Development (NRMSD-2010) Confrrence 1st to 2nd February 2010.
4	Chougule, N. B. and Munavalli, G. R.	2011	Sand Ballasted Flocculation for Low Turbidity Water Treatment	National Conference on Water for Future, SGGS college of Engineering and Technology, Nanded, 25-26 February, 2011, 134-138.
5	Trimbake, S. D. and Munavalli, G. R.	2011	Optimal Design of Activated Sludge Process by Genetic Algorithm	National Conference on Water for Future, SGGS college of Engineering and Technology, Nanded, 25-26 February, 2011,
6	Bhushan Kalantre & P.G.Sonavane	2011	Assessment of Groundwater Quality in Hatkanangle Taluka; Dist. Kolhapur - a Case Study,	National Conference ,SGGS College of Engineering & Technology, Nanded.25-26 Feb. 2011,151-154.
7	Hivrekar, Munavalli	2012	Clay pot filter - A Review	International conference on "Current Trends in Engineering and Management", VV College of Engineering, Mysore, July 11th to 14th ,2012.

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
8	Gurav V. B. and Munavalli G. R.	2012	Enhanced Primary Treatment of Sewage by Sand Ballasted Flocculation	International conference on "Recent Advances in Engineering Technology and Management", S. P. CoE Mumbai, 68.
9	Chougule N. B. and Munavalli G. R.	2012	Turbidity Removal by Sand Ballasted Flocculation	International conference on "Recent Advances in Engineering Technology and Management", . P. CoE Mumbai, 68.Mumbai, 67.
10	Hupare D. S. and Munavalli G. R.	2012	Studies on Quality of Rooftop Harvested Rainwater	International conference on "Recent Advances in Engineering Technology and Management", . P. CoE Mumbai, 39.
11	Jasutkar D. B. and Munavalli G. R.	2012	Greywater Treatment by Natural Aerated Constructed Wetland	International conference on "Recent Advances in Engineering Technology and Management", . P. CoE Mumbai, 66.
12	Pathak, P. M. and Munavalli G.R.	2012	Development and assessment of point of use water purifier	International conference on "Sustainable Water Resources Development and Management", Shivaji University, Kolhapur, December 20th to 21st ,2012.
13	Kulkarni, M. S. and Munavalli G.R.	2012	Greywater - A real life case study	International conference on "Sustainable Water Resources Development and Management", Shivaji University, Kolhapur.
14	Aphale, A. A. and Munavalli G.R.	2012	Rooftop Harvested Rainwater quality and Treatment - A Review	

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
15	Mane, S.S. and Munavalli G.R.	2012	Sequential Batch Reactor-Application to Wastewater - A Review	International conference on "Sustainable Water Resources Development and Management", Shivaji University, Kolhapur,.
16	Mayur Pimpalnerkar & P.G. Sonavane	2012	Solid Waste Management for Institutional Building (IB): A Case Study of Walchand College of Engineering, Sangli.	National Conference on Advanced Trends in Civil Engineering Karpagam University Coimbotore, 2nd& 3rd March 2012,105
17	Bhalchandra S. Labade & P.G.Sonavane	2012	Performance Appraisal of Water Purification and distribution system in WCE, Sangli.	National Conference on Advanced Trends in Civil Engineering Karpagam University Coimbatore, 98.
18	Tejal R.Patil & P.G.Sonavane	2012	A Review on Package Treatment for Domestic Wastewater	International conference on Sustainable Water Resources Development and Management, Shivaji University, Kolhapur, 20-21 Dec.2012, 157.
19	Prachi Rajgolikar & P.G.Sonavane	2012	E- waste Management for Engineering Institutes: A Review	National Conference of Emerging Technologies, Shivaji University, Kolhapur. 27-28 Dec. 2012, 86.
20	Tejaswini Mali & P.G.sonavane	2012	Effect of Vehicular Emissions on Ambient Air Quality of Sangli City	National Conference of Emerging Technologies, Shivaji University, Kolhapur.27-28 Dec.2012, 80.
21	Priyanka Pathak and Munavalli	2013	Development and assessment of point of use water purifier	ICE-WWISH-2013 to be held at Janana Jyothi Auditorium, Central College Campus, Bangalore University, Bangalore, Karnataka, India, during July 25th - 27th 2013.

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
22	Patil S., D, and Munavalli G. R.	2014	Design of rooftop rainwater harvesting system and development of package in-line treatment	All India Conference on Waste Management & Pollution Control [WMPC-2014] on "Sustainable Concepts in wastewater treatment", Institute of Engineers and KLEs College of Engg., and Technology, Belgaum 7th and 8th March 2014.
23	Ghatage, S. A. and Munavalli G. R.	2014	Anaerobic sequential batch reactor and application to wastewater -A review	All India Conference on Waste Management & Pollution Control [WMPC-2014] on "Sustainable Concepts in wastewater treatment", Institute of Engineers and KLEs College of Engg., and Technology, Belgaum 7th and 8th March 2014.
24	Nerlekar, A, A. and Munavalli G. R.	2014	Aerobic sequential batch reactor and application to domestic wastewater -A review	All India Conference on Waste Management & Pollution Control [WMPC-2014] on "Sustainable Concepts in wastewater treatment", Institute of Engineers and KLEs CET Technology, Belgaum 7th& 8th Mar 2014.
25	P.G.Sonavane	2015	Study on pilot scale package treatment system for domestic wastewater	47th Annual Convention of IWWA Kolkata on 30th Jan to 1st Feb.2015

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
Mechanical Engineering				
1	Uday A. Dabade, V.V. Bhanuprasad	2009	Effect of machining on work hardening characteristics of powder metallurgy processed Al/SiCp metal matrix composites	Proceedings of PM09 conference, Goa
2	Rahul Chougule and SugatoChakrabarty	2009	Ontology based knowledge retrieval for improved equipment diagnosis in vehicle assembly plant	Proceedings of IEEE Conference on Automation and Software Engineering (CASE 2009), IISc Bangalore
3	Uday A. Dabade, VL Jagtap	2010	Effect of Process Parameters During Electrical Discharge Machining of Inconel-718	Proceedings of National Conference on Recent Advances in Manufacturing, S.V. National Institute of Technology, Surat
4	Uday A. Dabade, CD Dhaphale	2010	Preparation for 5S Implementation and Ergonomics Analysis for Assembly line of Gensets	Proceedings of National Conference on Recent Advances in Manufacturing, S.V. National Institute of Technology, Surat
5	Uday A. Dabade	2010	A Review of Wire EDM Process	Proceedings of National Conference on Recent Advances in Manufacturing S.V. National Institute of Technology, Surat
6	DnyaneshRajpathak, Rahul Chougule, PulakBandyopadhyay	2010	A knowledge discovery framework for automotive service enhancement using association and text mining	Workshop on IVHM, 14th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), June 2010, Hyderabad.
7	Uday A. Dabade, SS Kurane	2011	Burr removal in drilled holes by EDM process	Proceedings of International Conference on Current Trends Technology, Institute of Technology, Nirma University, Ahmadabad
8	Uday A. Dabade, HC Pandit	2011	Optimisation: Need of today's competitive age - A case study on simulation using AutoCAST	

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
9	Uday A. Dabade, SS Kamat	2011	Analysis of Machining Process Parameters during Turning of EN 24 Steel	Proceedings of 5th International Conference on Advances in Mechanical, S.V. NIT, Surat
10	Uday A. Dabade, SP Nevagi	2011	Some Study on Die Sinking EDM of Inconel - 718	
11	Sunith Bandaru, Kalyanmoy Deb, VineetKhare, Rahul Chougule	2011	Quantitative modeling of customer satisfaction from service data using evolutionary optimization	Genetic and Evolutionary Computation Conference (GECCO-2011), Ireland
12	Dipak Laha and Sagar U. Sapkal	2011	An Efficient Heuristic Algorithm for Machine No-Wait Flow Shops	International Multi-conference of Engineers and Computer Scientists, Hongkong.
13	Uday A. Dabade, P Mujumdar	2012	Development of Test Rig for Frictional Torque Measurement of an Automobile Engine	Proceedings of 27th National Convention of Production Engineers and National, BIT, Mesra, Ranchi.
14	Uday A. Dabade, R Bhedasgaonkar	2012	Analysis of Casting Defects by Design of Experiments Method	Proceedings of 27th National Convention of Production Engineers and National, BIT, Mesra, Ranchi
15	Uday A. Dabade, HC Pandit	2012	Application of Historical Data in Foundry for Casting Parameter Optimisation	Proceedings of 27th National Convention of Production Engineers and National, BIT, Mesra,
16	Uday A. Dabade, H.C. Pandit	2012	A Novel Web-based system for Casting Defect Analysis	Technical transactions of 60th Indian Foundry Congress, Bangalore.
17	UA Dabade	2013	Effect of EDM Process Parameters for Burr Removal of Drilled Holes of Inconel-718	ASME 2013 International Mechanical Engineering Congress and Exposition, USA
18	UA Dabade, RC Bhedasgaonkar	2013	Casting defect analysis using design of experiments (DoE) and computer aided casting simulation technique	Procedia CIRP 7, 616-621

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
19	UA Dabade	2013	Multi-objective process Optimization to improve surface integrity on turned surface of Al/SiCp metal matrix composites using grey relational analysis	Procedia CIRP 7, 299-304
20	Abhinav Gaur, Sunith Bandaru, Kalyanmoy Deb, Rahul Chougule, Vineet Khare,	2013	Identification and Impact of High Priority Field Failures in Passenger Vehicles using Evolutionary Optimization	Seventh International Conference on bio-inspired computing, India
21	DA Kamble, BS Gawali	2013	Analysis of Triangular Microchannel Under Forced Convection Heat Transfer Condition for Laminar Flow Condition	4th International Conference on Micro/Nanoscale Heat and Mass Transfer, ASME, USA
22	Mitali S. Mhatre, Sagar U. Sapkal Raju S. Pawade	2014	Electro Discharge Machining Characteristics of Ti-6Al-4V Alloy: A Grey Relational Optimization	International Conference on Advances in Manufacturing and Materials Engineering, ICAMME 2014, Procedia Materials Science, Volume 5, 2014, Pages 2014–2022
Electrical Engineering				
1	Madhukar Waware and Pramod Agarwal	2010	Comparison of Control Strategies for Multilevel Inverter based Active Power Filter used in High Voltage Systems	International conf. on Power ELN drives , Energy Systems 2010 New Delhi,
2	Madhukar Waware and Pramod Agarwal	2010	Performance Investigation of Multilevel Inverter based Active Power Filter in Distort ed High Voltage supply System	IEEE International Conference on Sustainable Energy Technologies (ICSET), Sri Lanka
3	Madhukar Waware and Pramod Agarwal	2010	Use Of Multilevel Inverter For Elimination of Harmonics in High Voltage Systems	IEEE 2nd International Conference on Computer and Automation Engineering, Singapore, vol.2

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
4	A B Patil, Suhas Bhise	2011	Comparison of LDM and HMM for application of speech processing	IEEE conference on Adv. Communication and computing, ARTCOM ,Kerala, Oct.16-17, pp.431-436 ICETE, Feb .20-21, pp.85-91
5	A B Patil, Deepak Kadam	2011	Neural network based intelligent process control system	IEEE conference on info., telecomm. and computing Mar.12-13,pp.356-358
6	A B Patil,	2011	Precise vector control of IM using embedded DSP	IEEE conference on Communication, computation and signal processing ,March 1-2 ,2011, Coimbatore
7	A B Patil	2011	DSP based vector control of PMSM with PI controller tunning	
8	Seema P Diwan, Pradeep Diwan and A. P. Vaidya	2011	Simulation Studies of Shunt Passive Harmonic Filters: Six Pulse Rectifier Load – Power Factor Improvement and Harmonic Control	AEE- 2010, International conference, Advances in Electrical Engineering dated 21st to 23rd Dec 2010 in Trivandrum, Kerala.
9	A. P. Vaidya	2012	"PWM Controlled DC drive With PID Algorithm for Treadmill"	NCAEE 2012, Sept 2012
10	A. P.Vaidya, P. A. Venikar	2012	"Distance Protection Scheme for Protection of Long Transmission Line Considering the Effect of Fault Resistance By Using ANN Approach"	ICEEE, Feb 2012
11	A. P.Vaidya, P. A. Venikar	2012	"Comparison of different types of transient stability assessments during congestion"	ATEES-2012, Feb 2012
12	A. P.Vaidya, P. A. Venikar	2012	"ANN Based Distance Protection Scheme for Protection of Long Transmission Lines "	ATEES-2012,Feb
13	A. P. Vaidya, P. A. Venikar	2012	"ANN Based Distance Protection of Long Transmission Lines by	IEEE-International Conference On Advances In Engineering, Science And

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
			Considering the Effect of Fault Resistance"	Management (ICAESM - 2012) March 30, 31, 2012, pp590-594
14	A. P. Vaidya, R. V. Patil	2012	"Comparison of different types of transient stability assessments during congestion	IEEE-International Conference (ICAESM -2012) March 30, 31, 2012, pp 232-237
15	D.R.Patil	2012	Study of PWM Control Scheme for Shunt Active Power Filter	National Conference on Advance in Electrical Engineering. Yadrav-Ichalkaranji, Maharashtra
16	D.R.Patil	2012	Design And Simulation Studies Of D-STATCOM For Voltage Sag, Swell Mitigation.	International Conference On Electrical Engineering And Computer Science (ICEECS),Goa.India.
17	D.R.Patil	2012	Active Power Filter With Advanced Current Controller Technique For Power Quality Improvement,	International Conference On Electronics And Communication on Eng(ICECE).Goa,India
18	D.R.Patil	2012	Design And Simulation Studies Of D-STATCOM For Voltage Sag Mitigation.	International Conference On Engineering Research And Application (ATEES-12).GIT, Belagum.
19	D.R.Patil	2012	Performance Analysis Of Different Current Controllers For Active Power Filter	International Conference On PEIE 2012, Springer Verlag 2012 PEIE. Berlin, Heidelberg
20	D.R.Patil	2012	Design And Simulation Of Three Phase Shunt Active Filter For Harmonic Mitigation In Distribution System	Proceeding of International Conference on Engineering Research And Application (ICERA)-2012. Godavari Foundation's Godavari College of Engineering, Jalgaon.
21	D.R.Patil	2012	Design And Simulation Studies Of D-STATCOM For Voltage Sag Mitigation,	
22	S. N. Shinde and D. S. More	2012	"Rotor speed estimation for vector controlled IM drive using sliding mode	International joint conference on Emerging Intelligent sustainable

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
			observer."	technologies (EISTCON 2012) PP 9-12
23	Vanamane V.S. & Patel N.V.	2012	"PI Controller Design for Process Control System" International Journal of Advancement in Electronics and Electrical Engineering	Proceedings of Third Biennial National Conference NCNTE FR. C. Rodrigues institute of technology Vashi, Thane, Maharashtra India
24	Madhukar Waware and Pramod Agarwal	2012	Multilevel Inverter Based Active Power Filter Using Space Vector Modulation	38th Annual Conference on IEEE Industrial Electronics Society IECON 2012, Canada
25	Mr. V.P. Mohale	2012	DC to DC Resonant Converter for Electrical Vehicle Battery Charging	NCET 2012 SU Kolhapur
26	D.R.Patil	2013	An Innovative TBSC-TCR Compensator with Closed Loop Control for Dynamic Loads	Fourth international conference on Control, Communication and Power Engineering (CCPE). Bangalore
27	D.R.Patil	2013	A novel technique for implementation of Shunt Active Power Filter under balanced and unbalanced load conditions.	International Conference on Circuits, Power and Computing Technologies (IEEE). Noorul Islam Centre for Higher Education, Kumaracoil, Tamil Nadu.
28	D.R.Patil	2013	Implementation of Shunt Active Power Filter for Dynamically Distorted Load Conditions Using GoertzelAlgorithm	
29	D.R.Patil	2013	Synchronous Reference Frame Based Control of Shunt Active Power Filter	National Conference on Instrumentation, Control and Signal Processing 2013 SGGS, Nanded
30	D.R.Patil	2013	Performance of Series- Shunt Power Quality Compensator Under Unbalanced And Distorted Loading Conditions.	IEEE (CSS) Multi-conference on Systems and Control (Conference on Control Applications) Hyderabad, India

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
31	D.R.Patil	2013	A New Combined Strategy of Synchronous-Reference-Frame and Indirect-Current-Control for Series-Shunt Power Quality Compensator,	International Conference on Electrical and Electronics Engineering (ICEEE) Hyderabad, India. (IRNet) (ICEEE)Hyderabad, India.
32	D.R.Patil	2013	An Innovative TBSC-TCR Compensator With Closed Loop Control For Dynamic Loads	Fourth international conference on control communication and power engineering (CCPE) (Springer 2013). Bangalore, India
33	S. V. Ambesange, S. Y. Kamble and D. S. More	2013	Application of sliding mode control for speed control of DC motor drives.	2013 IEEE multi conference on Systems and Control Hyderabad (MSC 2013) PP 832-836,
34	A. M. Gore and D. S. More,	2013	"Performance investigation of shunt active filter with PI and fuzzy controller"	2013 IEEE multi conference on Systems and Control (MSC 2013) PP 1159-1164 Hyderabad
35	Swapnil Y. Kamble, Anil M. Gore, Nilesh R. Lohote, Madhukar M. Waware, D. S. More,	2013	"Comparison of Various Capacitor Voltage Regulation Techniques for Shunt APF"	IEEE Multi-Conference on Systems and Control (MSC), Hyderabad, India
36	Swapnil Y. Kamble, Madhukar M. Waware	2013	Unified Power Quality Conditioner with Advanced Control Strategy	IEEE International Multi-Conference on Automation, Computing, Control, (imac4s, 2013), Palai, Kerala
37	Swapnil Y. Kamble, Madhukar M. Waware	2013	Capacitor Voltage Regulation in Shunt APF using SMC Approach	IEEE Multi-Conference on Systems and Control (MSC 2013), Hyderabad
38	Swapnil Y. Kamble, Madhukar M. Waware	2013	Online Wavelet Based Control Algorithm for Shunt Active Power Filter Operation	IEEE Multi-Conference on Systems and Control (MSC 2013), Hyderabad

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
39	Lohit R. Chaudhary, Madhukar M. Waware	2013	Performance improvement diode clamped multilevel inverter using carrier based PWM scheme and balancing circuit	Intl. Conf. on Advances in Computer, Electronics and Electrical Engineering, CEEE
40	A B Patil	2013	Various fuzzy modeling technique and fuzzy controller design	DRDO national conf.on Innovations in engg.and tech., Madurai,Feb.2013
41	A B Patil	2013	Design of fuzzy bilinear controller for nonlinear system	IEEE conference on advances in computing,April 2012.
42	A B Patil	2013	robust adaptive controller for nonlinear system	
43	A B Patil	2013	Fuzzy robust adaptive controller for nonlinear time delay system	
44	A B Patil	2013	Speed estimation using Extended Kalman filter for PMSM	IEEE conference on Emerging trends in Electrical Engineering, VIT,Chennai, Dec.,13-15,2012
45	Pravin S Kamble and S P Diwan,	2013	Performance analysis of Shunt Active Filter with Hysteresis and Sinusoidal Pulse Width Modulation Techniques	ICEEE-2013, Sec IV, pp 110-114International conference on Electrical and Electronics Engineering, Hyderabad, India, 10th March 2013.
46	Sushant S Kamble and S P Diwan	2013	Comparison of Neural Network and Discrete Fourier Transform based total harmonic reduction for Shunt Active Power Filter	Published in ICEEE-2013, Sec IV, International conference on Electrical and Electronics Engineering, Hyderabad, India, 10th March 2013.
47	Seema P Diwan, Pradeep Diwan and A. P. Vaidya	2013	Simulation Studies of Single Phase Shunt Active Power Filter with the DC Capacitor Voltage Control	IICPE – 2011, India International Conference in Power Electronics dated 28th to 30th Jan 2011 at NSIT, New Delhi.

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
48	Karvekar Sushil, Patil Dadgonda,	2013	Implementation of Shunt Active Power Filter for Dynamically Distorted Load Conditions Using Goertzel Algorithm	International Conference on Circuits, Power and Computing Technologies (ICCPCT), 2013 pp.6, 11, 20-21 March 2013
49	Karvekar Sushil, Patil Dadgonda	2013	A Novel Technique For Implementation of Shunt Active Power Filter Under Balanced And Unbalanced Load Conditions	International Conference on Circuits, Power and Computing Technologies (ICCPCT), 2013 pp.1-5, 20-21 March 2013
50	Karvekar Sushil, Kumbhojkar Aditi,	2013	Comparison of different methods of reference current generation for shunt active power filter under balanced and unbalanced load conditions	International Conference on Circuits, Power and Computing Technologies (ICCPCT), 2013 pp.430-34,March 2013
51	Mr. V.P. Mohale	2013	High Frequency driver circuit For MOSFET full bridge Resonant Converter	ICETE JJM Jaysingpur.
52	D.R.Patil	2014	Voltage regulation with adaptive control algorithm for DSTATCOM.	Proceeding of International conference on power and energy system: towards sustainable energy (PESTSE), International Conference 2014
53	D.R.Patil	2014	Adaptive voltage regulation using z-source inverter interfaced with distributed energy resources.	Proceeding of International conference on circuit, power, and computing technology(IEEE) Noorul Islam Centre for Higher Education, Kumaracoil,Tamil Nadu
54	D.R.Patil	2014	Voltage control of distribution system with PEM fuel cell interfaced with z source inverter	
55	D.R.Patil	2014	An adaptive voltage control with PEM fuel cell based power electronic system	
56	D.R.Patil	2014	Adaptive Control Schemes For Distribution System With DER	

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
57	D.R.Patil	2014	Comparison of Reference Current Generation for Shunt Active Power Filter Using Goertzel Algorithm And Enhanced PLL	Noorul Islam Centre for Higher Education, Kumaracoil,Tamil Nadu
58	D.R.Patil	2014	Implementation of Shunt Active Power Filter Using Sliding Mode Controller	
59	PravinJadhav, R. D. Thombre and D. S. More,	2014	Three phase front end active boost rectifier with unity power factor, dc voltage regulation and bidirectional power flow.	CCPCT-2014 International Conference held on 20/03/14 at Nagercoil.
60	Pravin Jadhav and D.S. More	2014	"Regenerative Boost Rectifier"	
61	Jyoti Patkure, D S More and Mahesh Todkar "	2014	Fuzzy Gain Scheduling Based Control Technique for the Feed in the Tool and Cutter Grinding Machine"	
62	Aditi Kumbhojkar, Nitinkumar Patel & Anant Kumbhojkar	2014	"A Novel Sliding Mode Control Technique for DC to DC Buck Converter".	International Conference on Circuits, Power and Computing Technologies, ***IEEE at*** Noorul Islam Centre for Higher Education,Thuckalay Nagercoil Kanyakumari District
63	Aditi Kumbhojkar & Nitinkumar Patel	2014	"A Sliding Mode Controller with Cascaded Control Technique for DC to DC Boost Converter".	
64	A B Patil, M.M.Havagondi, Utkarsh Patil, Pranita Katkol	2014	controller design for bilinear system	IEEE Int. Conf. on circuit, power and computing technology ICCPCT 2014 nagarcoil, Tamilnadu
65	A B Patil, M.M. Havagondi, Utkarsh Patil, Pranita Katkol	2014	stability analysis of TS fuzzy system via LMI technique	IEEE Int. Conf. on circuit, power and computing technology ICCPCT 2014 nagarcoil, Tamilnadu

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
66	A B Patil, M.M. Havagondi, Utkarsh Patil, Pranita Katkol	2014	Design of fuzzy controller via TS fuzzy approch	IEEE Int. Conf. on circuit, power and computing technology ICCPCT 2014 nagarcoil, Tamilnadu
67	A B Patil, M.M.Havagondi, Utkarsh Patil, Pranita Katkol	2014	Efficient Controller for controlling nonlinear system	
68	A B Patil, M.M.Havagondi, Utkarsh Patil, Pranita Katkol	2014	GA approach for controlling nonlinear system	
69	Nileshchamat, S P Diwan, Vikas Bhandare, Arvind Bondre	2014	Real time control of three phase shunt active power filter (SAPF) by instantaneous reactive power theory	Published in EPICS-2014,IEEE sponsored National conference on energy power and intelligent control systems, Noida, UP, 28-29th March 2014
70	Nileshchamat, S P Diwan, Vikas Bhandare, Snehal Jamadade	2014	Instantaneous reactive power theory for real time control of three phase shunt active power filter (SAPF)	Published in ICCPCT-2014, IEEE sponsored international conference on Circuits, Power and Computing Technologies, NICHE, Tamilnadu, 20-21st March 2014
71	Nilesh chamat, S P Diwan, Vikas Bhandare	2014	Reference Current Generation of Shunt Active Power Filter Using Synchronous Reference Frame Method Along With Hardware Implementation	Published in National Power & Energy System Conference (NPESC) , April 25 -26,2014, Electrical Engineering Department, Kamla Nehru Institute of Technology, Sultanpur
72	Karvekar Sushil, Gadgune Swapnil, Patil Dadgonda	2014	Implementation of Shunt Active Power Filter Using Sliding Mode Controller	International Conference on Circuits, Power and Computing Technologies (ICCPCT), 2014 pp., 20-21 March 2014
73	Karvekar Sushil, Patil Dadgonda,	2014	Comparison of Reference Current Generation for Shunt Active Power Filter	International Conference on Circuits, Power and Computing Technologies

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
			Using Goertzel Algorithm And Enhanced PLL	(ICCPCT), 2014 pp., March 2014
74	Sushil Karvekar, Swapnil Patil, A.M. Mulla, Dadgonda Patil	2014	Goertzel Algorithm Based Shunt Active Power Filter Using Sliding Mode Controller	Proceedings of the World Congress on Engineering and Computer Science 2014 Vol I WCECS 2014, 22-24 October, 2014, San Francisco, USA
Electronics Engineering				
1	Dr. (Mrs.) S. Subbaraman, Mr. B. G. Patil	2011	" IRIS Feature Extraction and Classification Using FPGA", International Journal of Electrical and Computer Engineering-IJECE, November 2011	International Journal Publications:
2	Mr. S. N. Kore	2011	"Neural based Scheduling Algorithm for Fixed Length Packet Switching.", Journal of Information Knowledge and Research in Electronics and Communication Engineering, ISSN:0975-6779, Nov10, Volume 1, Issue 2, pp. 155-158.	International Journal Publications:
3	Mr. V. B. Dharmadhikari	2011	"Extended I frame method for Video Traffic Smoothing", International Journal of Engineering Science and Technology (IJEST),ISSN: 0975 -5462, Vol.3 No. 9 Sept 2011.pp.6992-6997.	International Journal Publications:
4	Mr. S. K. Parchandekar, Mr. S. G. Tamhankar	2011	"Comparative study of Audio Watermarking and a Scheme for an Efficient, Robust and Imperceptible Watermarking."International Journal of Computer Applications in Engineering	International Journal Publications:

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
			Sciences Vol 1, Issue 11, JUNE 2011, ISSN 2231-4946, pp.150-155.	
5	Mr. S. B. Dhaygude	2011	"Agricultural Plant Image Retrival System using CBIR", International Journal of Emerging Technology and Advanced Engineering, Volume 1, Issue 2, December 2011, pp.93-96.	International Journal Publications:
6	Dr. Mrs. S. Subbaraman,	2011	"A Novel reconfiguration controller for speed efficient internal dynamic partial reconfiguration", Advances in computational sciences and technology ISSN 0973-6107 Vol.4, No. (2011) pp. 229	National Conferences:
7	Mr. V. B. Dharmadhikari	2011	"Creating Educational Lecture Videos Compatible with Streaming Server Using Low Cost Resources", IEEE International Conference on Technology for Education, 2011 ISBN: 978-0-7695-4534-9/11, pages 116 – 120.	International Conferences:
8	Mrs. M. R. Khare	2011	"Audio watermarking for copyright protection and tampering detection", National Conference on Recent Trends in Electronics Engineering" held at WCE Sangli on 3-5 Dec 2011.	National Conferences:
9	Miss S. S. Patil	2011	"Hybride channel allocation algorithm in wireless cellular network", National Conference on Recent Trends in Electronics Engineering Held at WCE Sangli on 3-5 Dec 2011.	National Conferences:

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
10	Dr. Mrs. S. S. Deshpande	2012	” A high Capacity Data Hiding Method for JPEG2000 Compression System”, International Journal of Engineering Research and Applications (IJERA), Vol 2, Issue 4, June – July 2012, pp. 751-755.	International Journal Publication
11	Mr. S. N. Kore	2012	“Modeling and Simulation of Single Phase Half Bridge Shunt APF.”, International Organization of Scientific Research Journal of Electrical and Electronics Engineering Vol.1 Issue 2,May-June 2012	International Journal Publication
12	Mr. S. N. Kore	2012	“An Efficient Image Compression Technique using 2D-DWT and FELICS Algirithm for Different Class of Images (COI)”, International Journal of Computational Engineerng and Management Vol. 15 Issue 4, July 2012, pp.110-114	International Journal Publication
13	Mr. S. N. Kore	2012	“Fruits sorting and grading based on colour and size.”, International Journal of Emerging Technologies in Computational and Applied Sciences (IJETCAS), IJETCAS 12-333,pp.94-96.	International Journal Publication
14	Mr. S. N. Kore,	2012	“A performance Evaluation of Multiple Input Queued (MIQ) Switch with Iterative Weighted Slip Algorithm”, International Journal of Advanced Computer Science and Applications Vl.3 No. 9 2012. Pp- 240-244.	International Journal Publication

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
15	Mr. S. N. Kore,	2012	"Permuted Diagonal Maximum Weight Matching (PDMWM) Scheme for Cell Scheduling in Fixed Length Packet Switches", International Journal of Computational Engineering and Management Vol. 15 Issue 4, July 2012, pp- 60-64.	International Journal Publication
16	Mr. V. B. Dharmadhikari	2012	"A new N2N Packet Forwarding Technique for MPEG Video Transport in IP networks", International Journal of Of Computer Applications (0975-8887) volume 50-No.23 July 2012, pp.7-11.	International Journal Publication
17	Mr. S. G. Tamhankar	2012	"Performance Analysis And Minimization of Black Hole Attack In MANET", International Journal of Engineering Research and Applications (IJERA): ISSN :2248-9622, Vol.2, Issue 4 July-August 2012, pp-1430-1437.	International Journal Publication
18	Mr. V. R. Gaikwad, Mr. S. N. Kore	2012	"Modelling and Simulation of Single Phase Half Bridge Shunt APF", Journal of Electrical and Electronics Engineering (IOSRJEEE) ISSN :2278-1676 Volume 1, Issue 2 (May-June-2012) pp.30-38.	International Journal Publication
19	Mr. S. B. Dhaygude	2012	"Crop Disease Detection Using CBIR",International Journal of Emerging Tchnologies in Cmputational and Applied Sciences (IJETCAS), pp.113-118.	International Journal Publication

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
20	Mr. S. B. Dhaygude	2012	”Agriultural Plant Leaf Disease Detection Using Image Processing”, International Journal of Advanced Research in Electrical Electronics and Instrumentation Engineering, Vol.2, Issue 3 Jan 2013, pp.599-602.	International Journal Publication
21	Dr. Mrs. Deshpande S. S	2012	“Computationally Efficient Globally Linearizing Control of a CSTR and the Tennessee Eastman Problem using Quadratic Perturbation Models”,2012 American Control Conference Fairmont Queen Elizabeth, Montréal, Canada June 27-June 29, 2012, pp.3503-3508.	International Conferences:
22	Dr. Mrs. A. A. Agashe.	2012	“Evaluation of DV Hop Algorithm in Wireless Sensor Network”, 2012 International Conference on Advances in Mobile Network, Communication and Applications, Aug 2-Aug4, 2012, pp.79-81	International Conferences:
23	Mr. V. B. Dharmadhikari	2013	Computer Vision Based Vehicle Detection for Toll Collection System Using Embedded Linux, International Conference on Circuit, Power and Computing Technologies [ICCPCT],	-----
24	Mr. Y. B. Mane	2013	Real Time Vehicle Monitoring and Tracking System based on Embedded Linux Board and Android Application, International	-----

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
			Conference on Circuit, Power and Computing Technologies [ICCPCT]	
25	Mr. S. G. Tamhankar	2013	A design of Linux based ZigBee and Bluetooth Low Energy wireless gateway for remote parameter monitoring, International Conference on Circuit, Power and Computing Technologies [ICCPCT]	-----
26	Dr. Mrs. Agashe A. A.	2013	"Indoor Localization In Sensor Network With Estimation Of Doa And Rssi Measurement", International Journal of Research in Engineering and Technology, eISSN:2319-1163 | pISSN : 2321-7308, pg. 597-601.	-----
27	Mr. Patil B. G.,	2013	Pipelined Parallel FFT Architecture , International Journal of Research in advent Technology Vol 1. Issue 5. December 2013. Pp.514-518.	-----
28	Mr. Tamhankar S. G.	2013	"Review of attack detection scheme for cyber physical security system", IJCSMC, Vol. 2, Issue. 12, December 2013, pg.401 – 405.	-----
29	Mr. Gaikwad V. R.,	2013	Design, Implementation and Testing of 16 bit RISC Processor", IOSRJVSP Vol. 2, Issue 2, Apr 2013.pp.1-5.	-----
30	Mrs. Khare M. R.,	2013	"Implementation of Classification Technique for Mammogram Image", International Journal of Innovative Research in Science, Engineering and	-----

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
			Technology (An ISO 3297: 2007 Certified Organization) Vol. 2, Issue 12, December 2013, pg.7817-7820.	
31	Dr. S. D. Ruikar	2013	Face Recognition System Based On 2DFLD and PCA, International Journal of Computer Science & Engineering Technology (IJCSET), Vol. 4 No. 05 May 2013	-----
32	Dr. S. D. Ruikar	2013	Advance Neighbor Embedding for Image Super Resolution, International Journal Of Computers & Technology, Vol. 8, No. 2, June 2013, Pp. 768-776, (ISSN 22773061).	-----
33	Dr. S. D. Ruikar	2013	A Comparison of Filtering Techniques for Image Quality Improvement in Computed Tomography, International Journal Of Computers & Technology, Vol. 7, No. 3, June 2013, pp. 570-676, (ISSN 22773061).	-----
34	Dr. S. D. Ruikar	2013	Adaptive Denoising of CFA Images for Image Demosaicking, International Journal of Computer Science and Telecommunications, Vol.4, Issue 6, June 2013, pp. 26-31, (ISSN 2047-3338).	-----
35	Dr. S. D. Ruikar	2013	Face Recognition Using Singular Value Decomposition along with seven state HMM, Journal of Computer Science and Telecommunications, Vol.4, Issue 6, June 2013, pp.41-46.(	-----

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
			ISSN 2047-3338).	
36	Dr. S. D. Ruikar	2013	A Single Image Super Resolution Using Advanced Neighbor Embedding, International Journal of Computer Science & Engineering Technology (IJCSET), Vol. 4, No. 4, April 2013, Pp. 380-387. (ISSN : 2229-3345).	-----
37	Dr. Mrs. Deshpande S. S,	2013	"Computationally Efficient Globally Liberalizing Control of a CSTR using nonlinear Black Box Models", DYCOPS, IIT Bombay, 18-20th Dec 2013, pg. 221-226.	-----
38	Mr. Gaikwad V. R,	2013	"Single Phase Power Factor and Total Harmonic Distortion Monitoring System", NCRTE 2K13, Department of Electronics Engineering, WCE, Sangli, pp.108-110	-----
39	Mr. Gaikwad V. R,	2013	"Single Clock Cycle Implementation of a 16 bit Processor", NCRTE 2K13, Department of Electronics Engineering, WCE, Sangli, pp.62-64.	-----
40	Mr.Khedkar S. R. and Mr. Tamhankar S. G.,	2013	"Integration of Sensor to the Internet using Embedded Ethernet", NCRT2K13 Department of Electronics Engineering, WCE, Sangli.	-----
41	Miss. Telsang T. M.	2013	"Microstrip fed patch antenna for ultrawideband applications", National Conference on "Electronics for Rural Development", June	-----

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
			2013.	
42	Miss. Balgurgi P. P.	2013	"Secret Communication using Enhanced Audio Steganography ",e-PGCON 2013 , 4th -5th April 2013.	-----
43	Dr. S. D. Ruikar	2014	Image Quality Improvement by Multi-Scale Dictionary Method, International Journal of Electronics Communication and Computer Engineering, Volume 5, Issue 2, March 2014, pp-338-341, ISSN (Print): 2278–4209).	-----
44	Dr. S. D. Ruikar	2014	A Method of Color Image Denoised and Enhanced Using Wavelet Transform, International Journal of Soft Computing and Engineering (IJSCE), Volume-4, Issue-2, May 2014, pp-162-165, (ISSN: 2231-2307).	-----
45	Mr. Tamhankar S. G.	2014	"Implementing SCADA System for Industrial Environment Using 'IEEE C37.1' Standards", IEEE C37.1 : IEEE Standard for SCADA and Automation System, pg.1-14.	-----
46	Miss. Telsang T. M.,	2014	" Ultrawideband slotted Semicircular Patch Antenna", Microwave and Optical Technology Letters , Vol. 56, No. 2, February 2014, pp. 362-369.	-----
47	Mr. R. G. Mevekari	2015	Web based Automatic Irrigation System using wireless sensor network and Embedded Linux board, 2015	-----

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
			International Conference on Circuit, Power and Computing Technologies [ICCPCT]	
48	Dr. S. D. Ruikar	2015	Face Recognition System: Adaboost and 2DFLD, International Journal of Computer and Communication System Engineering, IJCCSE, (ISSN: 2312-7694)	-----
Computer Science and Engineering				
1	Smriti H. Bhandari and S. M. Deshpande,	2011	Analysis of engineered surfaces for product quality monitoring	International Journal of Computers and Applications, Vol. 33, No. 4, 2011, pp. 284 - 292
2	Kotrappa Sirbi, P.J. Kulkarni	2011	On the benefit of Quantification in AOP Systems-A Quantitative and a Qualitative assessment	LNCS Springer journal impact factor 1.956 International Conference on Computer Science and Information Technology, COSIT-2011, Bangalore, India
3	Dr. B.F. Momin P.M. Yelmar	2012	Modifications in K-Means clustering algorithm	International journal of soft computing and engineer (IJSCE) vol2 issue 3 pp 349-354
4	B.F. Momin Mrs. M.S. Kalas	2012	Study of implementation of advanced neuroergonomic techniques	Advanced computing: An International journal (ACIJ vol 3, no 4, pp 9-20
5	B.F. Momin P.P. Abhyankar	2012	Current status and future research directions in monitoring vigilance of individual or mass audience in monotonous working environment	International journal of soft computing vol 3 no 2 pp 45-53
6	B.F. Momin S.S. trimukhe	2012	Determining ABC's of cloud computing	International research journal of computer science and applications vol 1 issue 1

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
7	Ms. R.D. Kulkarni B.F. Momin	2012	Future research directions in skyline computation	International journal of computer engineering science (IJCES) vol 2 issue 5
8	M.K.Chavan and Deepa Guleria	2012	A Study and Comparative Analysis of Conditional Random Fields for Intrusion Detection	International Journal of Research in Computer Science, 2 (4): pp. 31-38,. doi:10.7815/ijorcs.24.2012.037, White Global Publication.
9	M.K.Chavan and Priyanka Madane	2012	Modeling and Detection of Camoflauaging Worms-A Survey	International Journal of Emerging Technology and Advanced Engineering (IJETAE), (ISSN 2250-2459, Volume 2, Issue 10,
10	M.K.Chavan and Sachin Pukale	2012	A Review of Anomaly Based Intrusion detection in Multi-Tier Web Applications	International Journal of Computer Engineering and Technology(IJCET), ISSN 0976-6367(Print), ISSN 0976-6375(Online) Volume Issue 3, , IAEME.
11	S.P. Sonavane	2013	Multi share crypt stego authentication system	International Journal of Computer Science and Mobile ComputingISSN No. 2320-088x, V.2 Issue 2, 80-90,
12	S.P. Sonavane	2013	Cellular automata for crypt steganography	International Journal of Advanced Technology and Engineering ResearchISSN No. 2250-3536, V.3 Issue 1, 73-78,
13	A.R. Surve, A.R.Khomane, S.D. Cheke,	2013	Energy Awareness in HPC: A Survey	International Journal of Computer Science and Mobile Computing, Vol. 2, Issue. 3, ISSN 2320–088X, 46 – 51,
14	Suhas Doijad, Medha Shah,	2013	Parallel Content Matching In Publish/Subscribe Systems	International Journal of Science and Research (IJSR), Volume 2 Issue 6,

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
15	S.P. Sonavane	2014	Code Birthmarks and Graph Isomorphism for Theft Detection	International Journal of Computer Science and Mobile Computing (IJCSMC)ISSN : 2320–088XVol. 3, Issue. 1, 470 – 476,
16	S.P. Sonavane	2014	Minutiae Points Extraction using Biometric Fingerprint-Enhancement	International Journal of Research in Engineering & Advanced Technology (IJREAT), ISSN: 2320 – 8791,Volume 2, Issue 1
17	S.P. Sonavane	2014	Computing List of Ordered Pairs from Disjoint Closed Interval to compute a most Probable Delay Path: NP-Hard in polynomial time	International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE), ISSN (Print):- 2320-9798, ISSN (Online):-2320-9801, Vol. 2, Issue 1,2526 -2531,
18	A.R. Surve, Swarup Suradkar	2014	A Protocol for Reducing Routing Overhead in Mobile Ad Hoc Networks	International Journal of Computer Science & Engineering Technology (IJCSET), Vol. 5, No. 02 ,115-117,
19	A.R. Surve, Nilesh Paddune	2014	A Survey on Hadoop Assisted K-Means Clustering of Hefty Volume Images	International Journal on Computer Science and Engineering (IJCSE),Vol. 6 ,No.03,113-117,
20	A.R. Surve, Swapnil Mahadeshwar	2014	Providing Efficient Data management services using Cloud Cache	International Journal of Computer Science and Mobile Computing, Vol. 3, Issue. 2 525 – 528,
21	HemaAgrawal, Smriti H. Bhandari	2014	Review on methods of cell segmentation of Histopathology images	International Journal of Computer, Information Technology and Bioinformatics,Vol. 2, Issue 2,

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
22	Suresh Shirgave, Prakash Kulkarni, José Borges	2014	Semantically Enriched Variable Length Markov Chain Model For Analysis Of User Web Navigation Sessions	International Journal of Information Technology and Decision Making,
23	Momin, B. F. Pawar S.	2014	Key Frame Extraction Using Features Aggregation	International Journal of Recent Development in Engineering and Technology, ISSN 2347 - 6435 (Online) Volume 2, Issue 1, pp 81-85
24	Momin, B. F., Bamane G.	2014	Distributing, Ensuring and Recovery of Data Stored in Cloud	International Journal of Computer Science and Mobile Computing, Vol. 3, Issue. 2, pg.1 – 7,
25	Smriti H. Bhandari and S. M. Deshpande	2014	Wavelets for Surface Metrology	Journal of Shivaji University (Science and Technology), ISSN-Science-0250-5347, Volume No. 41 (1), 2014
Information Technology				
1	D. B. Kulkarni	2011	Performance Evaluation of Feature Extraction Algorithm on GPGPU	978-0-7695-4437-3/11 $26.00 © 2011 IEEE DOI 10.1109/CSNT.2011.114
2	D. B. Kulkarni	2012	Application of Artificial Intelligence Based Techniques for Intrusion Detection System: Review	ISSN:2229-3965 & E-ISSN: 2229-3973, Vol-3, Issue 2, 2012, pp-74-79
3	D. B. Kulkarni	2012	Analysis of Fractal Video Coding Using Fixed Partitioning Scheme	ISSN:0976-8882 & E-ISSN: 0976-8890, Vol-3, Issue 4, 2012, pp-126-130
4	D. B. Kulkarni	2012	NetraRIS - a Web based DICOM Viewer	International Journal of Computer Applications (0975 – 8887)Vol.48– No.24, June 2012
5	P K Kharat	2012	Use of Neural Network for video Traffic Prediction	Mathematical Modeling & Applied Computing. ISSN 0973-6093 VOL.3, PP: 61-70

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
6	P K Kharat	2012	Neural Network Based Approach for MPEG video Traffic Prediction.	Proc. Of International Conference on Advances in Recent Technologies in Communication & Computing.
7	M B Narnavare	2012	3D Chaotic Functions for Image Encryption	IJCSI. Vol. 9, Issue 3, No 1, May 2012 ISSN (Online): 1694-0814
8	P K Kharat	2013	Cooperative Communication: New trends in wireless communication	IJFGCN vol.6, pp: 157-166. ISSN:2233-7857
9	D. B. Kulkarni, U B Chavan	2013	Facial Expression Recognition- Review	(IJLTET) ISSN: 2278-621X, Vol. 3 Issue 1 September 2013
10	S.P.Sonavane	2013	Study of negatives symptoms in first episode schizophrenia	Open Journal of Psychiatry, 2013, 3, 323-328
11	A J Umbarkar	2013	Genetic Algorithm On General Purpose Graphics Processing Unit: Parallelism Review	ICTACT Journal on Soft Computing. Vol-3 Issue-4, Pages-615-622
12	A J Umbarkar	2013	Review of parallel genetic algorithm based on computing paradigm and diversity in search space	ISSN: 2229- 6956(ONLINE) ICTACT Journal On Soft Computing, July 2013, Volume: 03, Issue: 04
13	P K Kharat	2013	A Survey on Face Recognition System I JPEG Compression Domain	IJIRS ISSN 2319-9725 VOL.2, ISSUE - 10
14	P K Kharat	2013	Rotation Invariant Texture Classification By LBP: A Study	IJIRS ISSN 2319-9725 VOL.2, ISSUE - 10
15	P K Kharat	2013	Survey of Spam Filtering Techniques & Tools & Map Reduce with SVM	IJCSMC- ISSN: 2320-088x. VOL-2 ISSUE 11. PP:91-98
16	B S Shetty	2013	A Survey on Congestion Control Mechanism's Based on ECN	IJIRD ISSN 2278-0211(ONLINE)

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
17	USP	2013	Literature Review on Personnel Scheduling	IJCET, ISSN 0976-6367(PRINT), ISSN 0976-6375(ONLINE) Sept-Oct 2013 IAEME
18	S.P.Sonavane	2013	Multi-Share Crypt-Stego Authentication System	IJCSMC, Vol. 2, Issue. 2, February 2013, pg.80 – 90, ISSN 2320–088X.
19	A J Umbarkar	2013	Dual population genetic algorithm (GA) versus Open MP GA for multimodal function optimization	International Journal of Computer Applications (0975-8887)
20	P K Kharat	2013	Cost Effective Approach for Object Sorting	IJCA(0975-8887) VOL-52-NO:16
21	M B Narnavare	2013	Real Time and Secure Video Transmission using Open MPI and Open MP	International Journal of Science and Research (IJSR), India Online ISSN: 2319-7064. Volume 2 Issue 5, May 2013
22	M B Narnavare	2013	Indexing Frequent Subgraphs in Large graph Database using Parallelization	International Journal of Science and Research (IJSR), India Online ISSN: 2319-7064. Volume 2 Issue 5, May 2013
23	M B Narnavare	2013	Predictive Load Balancing Strategy for reduction of Latency in Mobile Cloud Computing	International Journal of Computer & Communication Engineering Research (IJCCER) Volume 1 - Issue 1 May 2013
24	B S Shetty	2013.	A Review on Workload Shaping Framework for Efficient Storage Systems	IJIRS, ISSN 2319-9725. VOL 2 ISSUE 12 DEC 2013.
25	S.P.Sonavane	2014	Performance and Strength Comparison Of Various Encryption Protocol of PPTP VPN.	IJAFRC, Volume 1, Issue 7, ISSN 2348 - 4853
26	Sujit P. Nale, Dr. S.P.Sonavane	2014	Computing All Possible Network Delay Constrained Paths	(IJAFRC), Volume 1, Issue 7, ISSN 2348 - 4853

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
			To Find Out Most Probable Delay Path.	
27	S.P.Sonavane	2014	JavaScript Theft Detection using Birthmark and Subgraph Isomorphism	JECAS, ISSN No: 2319-5606. Volume 3, No.8,
28	A J Umbarkar, M S Joshi	2014	0/1 Knapsack Problem using Diversity based Dual Population Genetic Algorithm	I.J. Intelligent Systems and Applications, 34 – 40. DOI: 10.5815/ijisa.2014. 10 .05
29	A J Umbarkar, M S Joshi, W C Hong	2014	Multithreaded Parallel Dual Population Genetic Algorithm (MPDPGA) for unconstrained function optimizations on multi-core system	Applied Mathematics and Computation. Vol.243 pp: 936-949. Publisher: Elsevier
30	P A Kendre, P K Kharat	2014	Compression Technique & Face Recognition with PCA: A Study	IJCSMC, VOl-3 Issue-6, pg:802-808, ISSN 2320-088X
31	P K Kharat, J Kharat	2014	Wireless Intrusion Detection System Using Wireless Sensor Network: A Conceptual Framework.	IJEEE VOL.2, PP-80-84
32	H C Kamble, E W Kulkarni, B B Ahuja	2014	Tremor Detection for Accuracy Enhancement in Microsurgeries Using Inertial Sensor	International Journal of Information & Computation Technology. ISSN 0974-2239 Volume 4, Number 12 (2014), pp. 1161-1166 © International Research Publications House
33	E W Kulkarni, H C Kamble, S Metkar	2014	Image Watermarking by SCHUR Decomposition	International Journal of Information & Computation Technology. ISSN 0974-2239 Volume 4, Number 12 (2014), pp. 1155-1159
34	U S Pawar, D B Hanchate	2014	Personnel Scheduling With Heuristic Search Approach	IJESRT, ISSN: 2277-9655 Scientific Journal Impact Factor: 3.449 (ISRA), Impact

Sr. No	Author/s	Year	Title	Details of Conference/ Seminar/ Workshop
				Factor: 1.852
35	U B Chavan	2014	Survey on Distributed Accountability for Data Sharing in the Cloud	IJCSMC, Vol. 3, Issue. 1, January 2014, pg.181 – 186. ISSN 2320–088X.
36	U B Chavan	2014	Survey Paper on Efficient and Secure Dynamic Auditing Protocol for Data Storage in Cloud	IJCSMC, Vol. 3, Issue. 1, January 2014, pg.187 – 191. ISSN 2320–088X
37	S. P. Sonavane	2014	Code Birthmarks and Graph Isomorphism for Theft Detection	IJCSMC, Vol. 3, Issue. 1, January 2014, pg.470 – 476, ISSN 2320–088X
38	S. P. Sonavane	2014	Computing List of Ordered Pairs from Disjoint Closed Interval to compute a most Probable Delay Path: NP Hard in polynomial time	IJIRCCE, ISSN(Online): 2320-9801 ISSN (Print): 2320-9798, Vol. 2, Issue 1, January 2014
39	S. P. Sonavane	2014	Minutiae Points Extraction using Biometric Fingerprint-Enhancement	IJREAT, Volume 2, Issue 1, Feb-Mar, 2014 ISSN: 2320 - 8791
40	P K Kharat	2014	Spam Filtering Techniques & Map Reduce with SVM: A Study	APCASE- 2014 IEEE
41	EWK	2014	Audio Watermarking by using Link List	Int. Journal of Researchers, Scientists & Developers. vol. 2 Jan 2014 ISSN: 2347-3649
42	A J Umbarkar, M S Joshi, P D Sheth	2015	Dual Population Genetic Algorithm for Solving Constrained Optimization Problems	I.J. Intelligent Systems and Applications,34-40. DOI: 10.5815/ijisa.
43	A J Umbarkar, M S Joshi, P D Sheth	2015	Open MP Dual Population Genetic Algorithm for Solving Constrained Optimization Problems	I.J. Information Engineering and Electronic Business, 59–65. DOI:10.5815/ijieeb.2015 .01.08