

Walchand College of Engineering, Sangli

(An Autonomous Institute)



Curriculum (Structure)

for

B.Tech. Information Technology

Academic Year 2017-2018



Walchand College of Engineering, Sangli

(An Autonomous Institute)

Teaching and Evaluation Scheme effective from 2016-17
Second Year B.Tech. Program in Information Technology
Semester I

Course Code	Course	Teaching Scheme				Evaluation Scheme			
						Component	Marks		Min.
		L	T	P	Credits		Max		
3MA 204	Linear Algebra	3	1	-	4	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3IT 201	Discrete Mathematics	3	1	-	4	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3IT 202	Data Structures	3	-	-	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3IT 203	Microprocessors	3	-	-	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3IT 204	Data Communication & Networking	3	-	-	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3IT 251	Data Structures Lab	-	-	2	1	ISE	50	20	
						ESE POE	50	20	
3IT 252	Microprocessors Lab	--	-	2	1	ISE	50	20	
						ESE POE	50	20	
3IT 253	Programming Lab-I	2	-	2	3	ISE	50	20	
						ESE POE	50	20	
3IT 241	Mini Project-I	-	-	2	1	ISE	100		40
Total		17	2	8	23	Total Credits: 23 Total Hours: 27			



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Second Year B.Tech. Program in Information Technology

Semester II

Course Code	Course	Teaching Scheme				Evaluation Scheme		
						Component	Marks)	
		L	T	P	Credits			Max.
3MA 215	Fuzzy System & Application	3	-	-	3	ISE 1	10	40
						MSE	30	
						ISE 2	10	
						ESE	50	
3IT 221	Theory of computation	3	1	-	4	ISE 1	10	40
						MSE	30	
						ISE 2	10	
						ESE	50	
3IT 222	Computer Architectures	2	1	-	3	ISE 1	10	40
						MSE	30	
						ISE 2	10	
						ESE	50	
3IT 223	Computer Networks	3	-	-	3	ISE 1	10	40
						MSE	30	
						ISE 2	10	
						ESE	50	
3HS 201	Environmental Science	3	-	-	3	ISE 1	10	40
						MSE	30	
						ISE 2	10	
						ESE	50	
3IT 21*	Professional Elective I	2	-	-	2	ISE 1	10	40
						MSE	30	
						ISE 2	10	
						ESE	50	
3IT 271	Computer network Lab	-	-	2	1	ISE	50	20
						ESE POE	50	20
3IT 272	Programming Lab. -II	2	-	2	3	ISE	50	20
						ESE POE	50	20
3IT 242	Mini project-II	-	-	4	2	ISE	50	20
						ESE POE	50	20
Total		18	2	8	24	Total Credits: 24 Total Hours: 28		

Professional Elective- I	
Course code	Course Name
Data Structure II	3IT 231
Robotics	3IT 232



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Semester I**

Course Code	Course	Teaching Scheme				Evaluation Scheme			
						Scheme		Marks	
		L	T	P	Credits			Max.	Min.
3OE 3**	Open Elective- I	3	-	-	3	ISE 1	10		40
						MSE	30		
						ISE 2	10		
						ESE	50	20	
3IT 301	Database Engineering	3	-	-	3	ISE 1	10		40
						MSE	30		
						ISE 2	10		
						ESE	50	20	
3IT 302	Software Engineering Design	2	1	-	3	ISE 1	10		40
						MSE	30		
						ISE 2	10		
						ESE	50	20	
3IT 303	Operating System	3	-	-	3	ISE 1	10		40
						MSE	30		
						ISE 2	10		
						ESE	50	20	
3IT 304	Computer Algorithm	3	1	-	4	ISE 1	10		40
						MSE	30		
						ISE 2	10		
						ESE	50	20	
2IT 30*	Professional Elective- II	3	-	-	3	ISE 1	10		40
						MSE	30		
						ISE 2	10		
						ESE	50	20	
3IT 351	Database Engineering Lab	-	-	2	1	ISE	50	20	
						ESE POE	50	20	
3IT 352	Web Technology	1	-	2	2	ISE	50	20	
						ESE POE	50	20	
3IT 341	Mini-Project III*	-	-	4	2	ISE	50	20	
						ESE POE	50	20	
Total		18	2	8	24	Total Credits: 24 Total Hours: 28			

Professional Elective- II	
Course code	Course Name
Wireless Networks	3IT 311
Cloud Computing	3IT 312
Computer graphics & multimedia techniques	3IT 313

Open Elective I:		
Course Code	Course Name	Offered by Department
1OE 315	Remote Sensing & GIS, GPS	Civil
1OE 329	Manufacturing Engineering	Mechanical
1OE 330	Energy Engineering	Mechanical
1OE 331	Mechanisms and Machines	Mechanical
1OE 343	Electrical Machines	Electrical
1OE 357	Electronic Systems	Electronics
1OE 358	Fundamental of Analog and Digital Communication	Electronics
1OE 371	Software Engg. & Database Essentials	CSE
1OE 385	Internet of Things	IT



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Teaching and Evaluation Scheme Effective from 2016-17
Third Year B.Tech. Program in Information Technology
Semester II

Course Code	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Scheme	(Marks)		
							Max.	Min.	
3OE 3**	Open Elective II	3	-	-	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3IT 321	Advanced Database Engineering	3	-	-	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3IT 322	Information Storage Management	3	-	-	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3IT 323	Unix Operating System	3	-	-	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3IT 324	Information Theory	2	1	-	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
2IT 32*	Professional Elective- III	3	-	-	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3IT 371	Unix Operating System Lab	-	-	2	1	ISE	50	20	
						ESE POE	50	20	
3IT 372	Parallel Programming Lab	1	-	2	2	ISE	50	20	
						ESE POE	50	20	
3IT 342	Mini-Project IV*	-	-	4	2	ISE	50	20	
						ESE POE	50	20	
Total		17	2	8	23	Total Credits: 23 Total Hours: 27			

Professional Elective- III	
Course code	Course Name
Machine Learning	3IT 331
Virtualization Technology	3IT 332
IOT: Systems and application	3IT 333

Open Elective II:

Course Code	Course Name	Offered by Department
1OE 308	Machine Foundations	Civil-APM
1OE 309	Theory of Structures	Civil-APM
1OE 336	Power Plant Engineering	Mechanical
1OE 337	Fabrication Technology	Mechanical
1OE 338	Mechanical Power Transmission	Mechanical
1OE 350	Renewable Energy	Electrical
1OE 364	Embedded Programming	Electronics
1OE 365	Signal Processing and Foundation	Electronics
1OE 378	Data Analytics	CSE
1OE 392	Web Design & Applications	IT



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Teaching and Evaluation Scheme from year 2017-18

Final year B. Tech. Program in Information Technology

Semester I

Course Code	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Scheme	Marks		
							Max	Min for Passing	
1OE***	Open Elective-III	3	0	0	3	ISE-1	10	-	40
						MSE	30		
						ISE-2	10		
						ESE	50	20	
3IT 401	Cryptography & Network Security	3	1	-	4	ISE-1	10	-	40
						MSE	30		
						ISE-2	10		
						ESE	50	20	
3IT 402	Data Mining	3	-	-	3	ISE-1	10	-	40
						MSE	30		
						ISE-2	10		
						ESE	50	20	
3IT 4**	Professional Elective- IV	2	1	-	3	ISE-1	10	-	40
						MSE	30		
						ISE-2	10		
						ESE	50	20	
3IC 401	Engineering Management, and Ethics	4	-	-	4	ISE-1	10	-	40
						MSE	30		
						ISE-2	10		
						ESE	50	20	
3IT 451	Open Source S/W Lab	2	-	2	3	ISE	50	20	
						ESE (OE)	50	20	
3IT 452	Software Testing & Quality Analysis Lab	2	-	2	3	ISE	50	20	
						ESE (OE)	50	20	
3IT 453	Data Mining Lab	-	-	2	1	ISE	50	20	
						ESE (OE)	50	20	
3IT 491	Project I	-	-	2*	2	ISE	50	20	
						ESE (OE)	50	20	
Total		18	2	8	26	Total Credits: 26			
						Total Hours: 28			

*Indicates contact hours per week per project batch of 8-10 students.

Professional Elective- IV	
High Performance Computing	3IT 411
Mobile Ad-hoc Networks & Sensors	3IT 412
Artificial Intelligence	3IT 413
Digital Image Processing	3IT 414
Software Defined Network	3IT 415

Course Code	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Scheme	Marks		
							Max	Min for Passing	
3IT***	Professional Elective-V	2	1	0	3	ISE-1	10	-	40
						MSE	30		
						ISE-2	10	20	
						ESE	50		
3IT 492	Project II	0	0	8*	10	ISE	50	20	
						ESE (OE)	50	20	
3IT 493	Techno -Socio Outreach	0	0	1	1**	ISE	100	40	
Total		3	-	9	14	Total Credits: 14			
						Total Hours: 12			

*Indicates contact hours per week per project batch of 8-10 students.

** Applicable from 2018-19 batch.

Professional Elective – V	
Soft Computing	3IT431
Geographical Information System	3IT432
Business Intelligence	3IT433
Visual Computing	3IT434
Software Architecture and Design	3IT435

Open Elective III:		
Course Code	Course Name	Offered by Department
1OE 401	Structural Health Monitoring	APM
1OE 402	Finite Element Method	APM
1OE 416	Concrete Engineering and Technology	Civil
1OE 417	Computational Methods and Optimization Techniques	Civil
1OE 429	Automobile Engineering	Mechanical
1OE 430	Energy Modeling and Management	Mechanical
1OE 431	Aerospace Engineering	Mechanical
1OE 443	Industrial Automation	Electrical
1OE 457	Cyber Physical Systems	Electronics
1OE 471	Business Intelligence	CSE
1OE 472	Ethical Hacking and Cyber Security	CSE
1OE 485	Data Visualization and Interpretation	IT