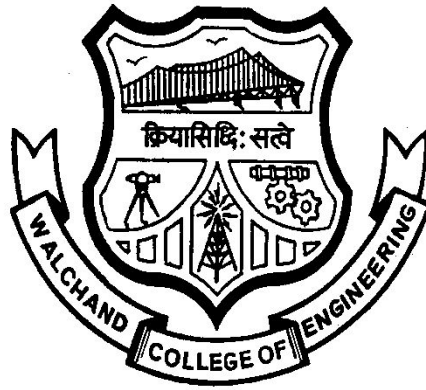


Walchand College of Engineering, Sangli

(An Autonomous Institute)



Curriculum (Structure)

for

B.Tech. Electrical Engineering

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 Electrical Engineering
 Semester I

Course code	Course	Teaching Scheme				Evaluation Scheme			
						Component	Marks		
		L	T	P	Credits		Max.	Min. for Passing	
3HS102	Environmental Science	2	1	--	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3MA203	Applied Maths- III	3	1	--	4	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL201	Analog and Digital Circuits	3	--	--	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL202	Electrical Circuit Analysis	3	--	--	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL203	DC Machines and Transformers	3	--	--	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL204	Electrical Measurement	2	--	2	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL251	Analog and Digital Circuits Lab	--	--	2	1	ISE	50	20	
						ESE (POE)	50	20	
3EL252	Electrical Circuit Analysis Lab	--	--	2	1	ISE	50	20	
						ESE (POE)	50	20	
3EL253	DC Machines and Transformers Lab	--	--	2	1	ISE	50	20	
						ESE (POE)	50	20	
3EL254	Software Packages	1	--	2	2	ISE	100	40	
Total		17	2	10	24	Total Credits: 24			
						Total Hours: 29			



Walchand College of Engineering, Sangli
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Teaching and Evaluation Scheme effective from 2016-17
Second Year B.Tech. Program in Electrical Engineering
Semester II

Course Code	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Component	Marks		
							Max.	Min. for Passing	
3EL 221	Electromagnetic Field	3	--	--	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL 222	AC Machines	3	--	--	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL 223	Instrumentation	3	--	2	4	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL 224	Power System Engineering	3	--	--	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL 225	Signals and Systems	3	1	--	4	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL 226	Microprocessor	3	--	--	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL 271	AC Machines Lab	--	--	2	1	ISE	50	20	
						ESE (POE)	50	20	
3EL 272	Microprocessor Lab	--	--	2	1	ISE	50	20	
						ESE (POE)	50	20	
3EL 273	Advanced Software Packages	1	--	2	2	ISE	50	20	
						ESE (POE)	50	20	
	Total	19	1	8	24	Total Credits: 24			
						Total Hours: 28			



Walchand College of Engineering, Sangli
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Teaching and Evaluation Scheme effective from 2016-17
Third Year B.Tech. Program in Electrical Engineering
Semester I

Course Code	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Component	Marks		
							Max.	Min. for Passing	
1OE***	Open Elective- I	3	--	--	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL 301	Power System Analysis and Stability	3	--	--	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL 302	Digital Signal Processing	3	1	--	4	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL 303	Control System Engineering	3	--	--	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL 304	Electrical Machine Design	3	--	2	4	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL 305	Power Electronics	3	--	--	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL 351	Power System Analysis and Stability Lab	--	--	2	1	ISE	50	20	
						ESE (P.O.E)	50	20	
3EL 352	Control System Engineering lab	--	--	2	1	ISE	50	20	
						ESE(P.O.E)	50	20	
3EL 353	Power Electronics lab	--	--	2	1	ISE	50	20	
						ESE (P.O.E)	50	20	
Total		18	1	8	23	Total Credits: 23			
						Total Hours: 27			

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



Walchand College of Engineering, Sangli

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Teaching and Evaluation Scheme effective from 2016-17

Third Year B.Tech. Program in Electrical Engineering Semester II

Course Code	Course	Teaching Scheme				Component	Marks		
		L	T	P	Credits		Max.	Min. for Passing	
1OE***	Open Elective II	3	--	--	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL 321	Industrial Drives and Control	3	--	--	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL 322	Energy Audit and Management	3	--	--	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL 323	Microcontroller and Applications	3	--	--	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL 324	Power System Protection	3	--	--	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL 325	Non Linear and Digital Control System	3	1	--	4	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3EL 371	Industrial Drives and Control Lab	--	--	2	1	ISE	50	20	20
						ESE (P.O.E)	50		
3EL 372	Microcontroller and Applications Lab	--	--	2	1	ISE	50	20	20
						ESE(P.O.E)	50		
3EL 373	Power System Protection Lab	--	--	2	1	ISE	50	20	20
						ESE (P.O.E)	50		
3EL 341	Mini Project	--	--	2	1	ISE	100		40
Total		18	1	8	23	Total Credits: 23			
						Total Hours: 27			

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



Walchand College of Engineering, Sangli
(An Autonomous Institute)
Teaching and Evaluation Scheme for Year 2017-18
Final Year U.G. Program in Electrical Engineering
I Semester

Course Code	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Scheme	Marks		
							Max Marks	Min for Passing	
1OE***	Open Elective III	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3EL401	Power System Harmonics and FACTS	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3EL402	HVDC Transmission	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3EL403	Solar and Wind Power Generation	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3EL***	Professional Elective-I	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3EL***	Professional Elective-II	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3EL451	Power System Harmonics and FACTS Lab	--	--	2	1	ISE	50	20	
						ESE(O.E.)	50	20	
3EL***	Professional Elective- I Lab	--	--	2	1	ISE	50	20	
						ESE(O.E.)	50	20	
3EL***	Professional Elective- II Lab	--	--	2	1	ISE	50	20	
						ESE (O.E.)	50	20	
3EL491	Project I	--	--	2*	4	ISE	100	40	
Total		18	--	8	25	Total Credits: 25			
		Total Hours: 26hrs							

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

Professional Elective- I & II					
Theory	Lab	Course	Theory	Lab	Course
3EL411	3EL452	Advanced Power Electronics	3EL414	3EL455	Microcontroller Application in Electrical Engineering
3EL412	3EL453	Process Control	3EL415	3EL456	Neural Network and Fuzzy Control
3EL413	3EL454	Power System Operation and Control	3EL416	3EL457	PLC and SCADA

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



Walchand College of Engineering, Sangli

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Teaching and Evaluation Scheme for Year 2017-18

Final Year U.G. Program in Electrical Engineering

II Semester

Course Code	Course	Teaching Scheme				Evaluation Scheme		
		L	T	P	Credits	Scheme	Marks	
							Max Marks	Min for Passing
3IC 401	Engineering Management, and Ethics	4	--	--	4	ISE-I	10	40
						ISE-II	10	
						MSE	30	
								ESE
3EL492	Project II	--	--	8*	8	ISE	50	20
						ESE(O.E.)	50	20
	Total	4	--	8	12	Total Credits: 12		
Total Hours: 12hrs								

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