

Walchand College of Engineering, Sangli

(An Autonomous Institute)



Curriculum (Structure)

for

Electrical Engineering

Academic Year 2016-2017



Walchand College of Engineering, Sangli
(An Autonomous Institute)
Teaching and Evaluation Scheme for Year 2016-17
Second Year U.G. Program in Electrical Engineering
I Semester

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
						ISE 2	10		
						MSE	30		
						ESE	50		
3MA203	Applied Maths- III	3	1	--	4	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3EL201 (3EE201)	Analog and Digital Circuits	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3EL202 (3EE202)	Electrical Circuit Analysis	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3EL203 (3EE203)	DC Machines and Transformers	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3EL204 (3EE204)	Electrical Measurement	2	--	2	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3EL251 (3EE251)	Analog and Digital Circuits Lab	--	--	2	1	ISE	50	20	
						ESE (POE)	50	20	
3EL252 (3EE252)	Electrical Circuit Analysis Lab	--	--	2	1	ISE	50	20	
						ESE (POE)	50	20	
3EL253 (3EE253)	DC Machines and Transformers Lab	--	--	2	1	ISE	50	20	
						ESE (POE)	50	20	
3EL254 (3EE281)	Software Packages	1	--	2	2	ISE	100	40	
Total		17	2	10	24	Total Contact Hours/Week: 29 hrs			

Note: Course code in the bracket indicates pre-revised code



Walchand College of Engineering, Sangli

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Teaching and Evaluation Scheme for Year 2016-17

Second Year U.G. Program in Electrical Engineering

II Semester

Course Code	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Component	Marks		
							Max.	Min. for Passing	
3EL 221 (3EE211)	Electromagnetic Field	3	--	--	3	ISE-I	10	20	40
						ISE-II	10		
						MSE	30		
						ESE	50		
3EL 222 (3EE212)	AC Machines	3	--	--	3	ISE-I	10	20	40
						ISE-II	10		
						MSE	30		
						ESE	50		
3EL 223 (3EE213)	Instrumentation	3	--	2	4	ISE-I	10	20	40
						ISE-II	10		
						MSE	30		
						ESE	50		
3EL 224 (3EE214)	Power System Engineering	3	--	--	3	ISE-I	10	20	40
						ISE-II	10		
						MSE	30		
						ESE	50		
3EL 225 (3EE215)	Signals and Systems	3	1	--	4	ISE-I	10	20	40
						ISE-II	10		
						MSE	30		
						ESE	50		
3EL 226 (3EE216)	Microprocessor	3	--	--	3	ISE-I	10	20	40
						ISE-II	10		
						MSE	30		
						ESE	50		
3EL 271 (3EE262)	AC Machines Lab	--	--	2	1	ISE	50	20	
						ESE (POE)	50	20	
3EL 272 (3EE266)	Microprocessor Lab	--	--	2	1	ISE	50	20	
						ESE (POE)	50	20	
3EL 273 (3EE271)	Advanced Software Packages	1	--	2	2	ISE	50	20	
						ESE (POE)	50	20	
	Total	19	1	8	24	Total Contact Hours/Week: 28 hrs			

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 Teaching and Evaluation Scheme for Year 2016-17
Third Year U.G. Program in Electrical Engineering
I Semester

Course Code	Course	Teaching Scheme				Evaluation Scheme			
						Component	Marks		
		L	T	P	Credits		Max.	Min. for Passing	
1OE***	Open Elective- I	3	--	--	3	ISE 1	10		40
						ISE 2	10		
						MSE	30		
						ESE	50	20	
3EL 301 (3EE301)	Power System Analysis and Stability	3	--	--	3	ISE 1	10		40
						ISE 2	10		
						MSE	30		
						ESE	50	20	
3EL 302 (3EE302)	Digital Signal Processing	3	1	--	4	ISE 1	10		40
						ISE 2	10		
						MSE	30		
						ESE	50	20	
3EL 303 (3EE303)	Control System Engineering	3	--	--	3	ISE 1	10		40
						ISE 2	10		
						MSE	30		
						ESE	50	20	
3EL 304 (3EE304)	Electrical Machine Design	3	--	2	4	ISE 1	10		40
						ISE 2	10		
						MSE	30		
						ESE	50	20	
3EL 305 (3EE305)	Power Electronics	3	--	--	3	ISE 1	10		40
						ISE 2	10		
						MSE	30		
						ESE	50	20	
3EL 351 (3EE351)	Power System Analysis and Stability Lab	--	--	2	1	ISE	50	20	
						ESE (P.O.E)	50	20	
3EL 352 (3EE353)	Control System Engineering lab	--	--	2	1	ISE	50	20	
						ESE(P.O.E)	50	20	
3EL 353 (3EE355)	Power Electronics lab	--	--	2	1	ISE	50	20	
						ESE (P.O.E)	50	20	
Total		18	1	8	23	Total Contact Hours/Week: 27hrs			

Note: Course code in the bracket indicates pre-revised code

Open Elective I		
Course Code	Course Name	Offered by Department
1OE 315 (3OE 302)	Remote Sensing & GIS, GPS	Civil
1OE 329 (3OE 304)	Manufacturing Engineering	Mechanical
1OE 330 (3OE 305)	Energy Engineering	Mechanical
1OE 331 (3OE 306)	Mechanisms and Machines	Mechanical
1OE 343 (3OE 307)	Electrical Machines	Electrical
1OE 357 (3OE 308)	Electronic Systems	Electronics
1OE 358 (3OE 311)	Fundamental of Analog and Digital Communication	Electronics
1OE 371 (3OE 309)	Software Engg. & Database Essentials	CSE
1OE 385 (3OE 310)	Internet of Things	IT

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Walchand College of Engineering, Sangli

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Teaching and Evaluation Scheme for Year 2016-17

Third Year U.G. Program in Electrical Engineering II Semester

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
						ISE 2	10		
						MSE	30		
						ESE	50		
3EL 321 (3EE307)	Industrial Drives and Control	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3EL 322 (3EE308)	Energy Audit and Management	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3EL 323 (3EE309)	Microcontroller and Applications	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3EL 324 (3EE310)	Power System Protection	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3EL 325 (3EE311)	Non Linear and Digital Control System	3	1	--	4	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3EL 371 (3EE357)	Industrial Drives and Control Lab	--	--	2	1	ISE	50	20	
						ESE (P.O.E)	50	20	
3EL 372 (3EE359)	Microcontroller and Applications Lab	--	--	2	1	ISE	50	20	
						ESE(P.O.E)	50	20	
3EL 373 (3EE360)	Power System Protection Lab	--	--	2	1	ISE	50	20	
						ESE (P.O.E)	50	20	
3EL 341 (3EE370)	Mini Project	--	--	2	1	ISE	100	40	
Total		18	1	8	23	Total Contact Hours/Week: 27 hrs			

Note: Course code in the bracket indicates pre-revised code

Open Elective II		
Course Code	Course Name	Offered by Department
1OE 308 (3OE 321)	Machine Foundations	Civil-APM
1OE 309 (3OE 322)	Theory of Structures	Civil-APM
1OE 336 (3OE 324)	Power Plant Engineering	Mechanical
1OE 337 (3OE 325)	Fabrication Technology	Mechanical
1OE 338 (3OE 326)	Mechanical Power Transmission	Mechanical
1OE 350 (3OE 327)	Renewable Energy	Electrical
1OE 364 (3OE 328)	Embedded Programming	Electronics
1OE 365 (3OE 331)	Signal Processing and Foundation	Electronics
1OE 378 (3OE 329)	Data Analytics	CSE
1OE 392 (3OE 330)	Web Design & Applications	IT

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Walchand College of Engineering, Sangli
 (An Autonomous Institute)
 Teaching and Evaluation Scheme for Year 2016-17
Final Year U.G. Program in Electrical Engineering
I Semester

Course Code	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Component	Marks		
							Max Marks	Min for Passing	
3OE****	Institute (Open) Elective III	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
2IC402	Industrial Management	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
2EE401	Power System Harmonics and FACTS	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
2EE406	HVDC Transmission	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
2EE****	Elective- I	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
2EE****	Elective- II	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
2EE451	Power System Harmonics and FACTS Lab	--	--	2	1	ISE	50	20	
						ESE(O.E.)	50	20	
2EE****	Elective- I Lab	--	--	2	1	ISE	50	20	
						ESE(O.E.)	50	20	
2EE****	Elective- II Lab	--	--	2	1	ISE	50	20	
						ESE (O.E.)	50	20	
2EE481	Pre Project Work	--	--	2	1	ISE	100	40	
Total		18	--	8	22	Total Contact Hours/Week: 26 hrs			

Open Elective III		
Course Code	Course Name	Offered by Department
1OE 415 (3OE 341)	Numerical Methods and Optimization Techniques	Civil
1OE 429 (3OE 342)	Automobile Engineering	Mechanical
1OE 430 (3OE 343)	Energy Modeling and Management	Mechanical
1OE 431 (3OE 344)	Aerospace Engineering	Mechanical
1OE 443 (3OE 345)	Industrial Automation	Electrical
1OE 457 (3OE 346)	Cyber Physical Systems	Electronics
1OE 471 (3OE 347)	Business Intelligence	CSE
1OE 472	Ethical Hacking and Cyber Security	CSE
1OE 485 (3OE 348)	Data Visualization and Interpretation	IT

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Elective- I & II					
Theory	Lab	Course	Theory	Lab	Course
411	461	Advanced Power Electronics	416	466	Solar and Wind Power Generation
412	462	Process Control	419	469	Neural Network and Fuzzy Control
414	464	Power System Operation and Control	420	470	PLC and SCADA
415	465	Microcontroller Application in Electrical Engineering			



Walchand College of Engineering, Sangli

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Teaching and Evaluation Scheme for Year 2016-17

Final Year U.G. Program in Electrical Engineering

II Semester

Course Code	Course	Teaching Scheme				Evaluation Scheme		
		L	T	P	Credits	Component	Marks	
							Max Marks	Min for Passing
2IC401	Engineering Economics and Business Ethics	4	--	--	4	ISE-I	10	40
						ISE-II	10	
						MSE	30	
						ESE	50	
2EE482	Project	--	--	8	12	ISE	50	20
						ESE(O.E.)	50	20
Total		4	--	8	16	Total Contact Hours/Week: 12hrs.		