

Walchand College of Engineering, Sangli

(An Autonomous Institute)



Curriculum (Structure)

for

B.Tech. Electronics Engineering

Academic Year 2016-2017



Walchand College of Engineering, Sangli

(An Autonomous Institute)

Teaching and Evaluation Scheme effective from 2016-17
Second year B. Tech. Program in Electronics Engineering
Semester I

Course Code	Course	Teaching Scheme				Evaluation Scheme		
		L	T	P	Credits	Scheme	Theory Marks	
							Max.	Min. for Passing
3MA201	Mathematics-III	3	1	-	4	ISE I	10	40
						MSE	30	
						ISE II	10	
						ESE	50	
3EN 201	Circuit Theory	3	1	-	4	ISE I	10	40
						MSE	30	
						ISE II	10	
						ESE	50	
3EN 202	Digital Electronics	3	-	-	3	ISE I	10	40
						MSE	30	
						ISE -II	10	
						ESE	50	
3EN 203	Electronic Circuit Analysis and Design-I	3	-	-	3	ISE I	10	40
						MSE	30	
						ISE II	10	
						ESE	50	
3EN 204	Transducer Measurement and Instrumentation	3	-	-	3	ISE I	10	40
						MSE	30	
						ISE II	10	
						ESE	50	
3EN 251 (3EN252)	DE Lab	1	-	2	2	ISE	50	20
3EN 252 (3EN253)	ECAD-I Lab	-	-	2	1	ESE POE	50	20
3EN 253 (3EN254)	TMI Lab (ISE)	-	-	2	1	ISE	50	20
3EN 254 (3EN260)	Data Structures and Algorithms Lab	2	-	2	3	ESE POE	50	20
Total		18	2	8	24	Total Credits: 24 Total Contact Hours/Week: 28 Hrs.		

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



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Semester II

Course Code	Course	Teaching Scheme				Evaluation Scheme		
		L	T	P	Credits	Scheme	Theory Marks	
							Max.	Min.
3EN 221 (3EN211)	Signals and Systems	3	1	-	4	ISE I	10	40
					MSE	30		
					ISE II	10		
					ESE	50	20	
3EN 222 (3EN215)	Analog Communication Engineering	3	1	-	4	ISE I	10	40
					MSE	30		
					ISE II	10		
					ESE	50	20	
3HS 201	Environmental Science	3	-	-	3	ISE I	10	40
					MSE	30		
					ISE II	10		
					ESE	50	20	
3EN 223 (3EN213)	Microcontroller, Peripherals and Interfacing	3	-	-	3	ISE I	10	40
					MSE	30		
					ISE II	10		
					ESE	50	20	
3EN 224 (3EN214)	Electronic Circuit Analysis and Design-II	3	-	-	3	ISE I	10	40
					MSE	30		
					ISE II	10		
					ESE	50	20	
3EN 271 (3EN263)	MPI Lab	-	-	2	1	ISE	50	20
2EN 272 (3EN264)	ECAD-II Lab	-	-	2	1	ESE POE	50	20
3EN 273 (3EN265)	ACE Lab	-	-	2	1	ISE	50	20
						ESE POE	50	20
3EN 274 (2EN270)	Engineering Computing Lab (ISE)	2	-	2	3	ISE	100	40
Total		17	2	8	23	Total Credits: 23 Total Contact Hours/Week: 27 Hrs.		

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Course Code	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Scheme	Theory Marks		
							Max.	Min. for Passing	
3OE3**	Open Elective I	3	-	-	3	ISE I	10	20	40
						MSE	30		
						ISE II	10		
						ESE	50		
3EN 301	Control System	3	-	-	3	ISE I	10	20	40
						MSE	30		
						ISE II	10		
						ESE	50		
3EN 302	Embedded System Design	3	-	-	3	ISE I	10	20	40
						MSE	30		
						ISE -II	10		
						ESE	50		
3EN 303	Digital Signal Processing	3	-	-	3	ISE I	10	20	40
						MSE	30		
						ISE II	10		
						ESE	50		
3EN 304	Electromagnetic Engineering	3	1	-	4	ISE I	10	20	40
						MSE	30		
						ISE II	10		
						ESE	50		
3EN ***	Professional Elective I	3	-	-	3	ISE I	10	20	40
						MSE	30		
						ISE II	10		
						ESE	50		
3EN 351 (3EN352)	Control System LAB	-	-	2	1	ISE	50	20	
						ESE POE	50	20	
3EN352 (3EN353)	ESD LAB	-	-	2	1	ISE	50	20	
						ESE POE	50	20	
3EN353 (3EN354)	DSP LAB	-	-	2	1	ISE	50	20	
						ESE POE	50	20	
3EN354 (3EN360)	EPD-I lab	1	-	2	2	ISE	100	40	
Total		19	1	8	24	Total Credits: 24 Total Contact Hours/Week: 28 Hrs.			

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Teaching and Evaluation Scheme effective from 2016-17
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Course Code	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Scheme	Theory Marks		
							Max.	Min.	
3OE***	Open Elective-II	3	-	-	3	ISE I	10	20	40
						MSE	30		
						ISE II	10		
						ESE	50		
3EN 321	Digital Communication	3	-	-	3	ISE I	10	20	40
						MSE	30		
						ISE II	10		
						ESE	50		
3EN 322	Power Electronics	3	-	-	3	ISE I	10	20	40
						MSE	30		
						ISE II	10		
						ESE	50		
3EN 323	Digital System Architecture	3	-	-	3	ISE I	10	20	40
						MSE	30		
						ISE II	10		
						ESE	50		
3EN***	Professional Elective II	3	-	-	3	ISE I	10	20	40
						MSE	30		
						ISE II	10		
						ESE	50		
3EN3***	Professional Elective III	3	1	-	4	ISE I	10	20	40
						MSE	30		
						ISE II	10		
						ESE	50		
3EN 371	DC Lab	-	-	2	1	ISE	50	20	
						ESE POE	50	20	
3EN 372	PE Lab	-	-	2	1	ISE	50	20	
						ESE POE	50	20	
3EN 373	DSArch Lab	-	-	2	1	ISE	50	20	
						ESE POE	50	20	
3EN 374	EPD-II	1	-	2	2	ISE	100		40
Total		19	1	8	24	Total Credits: 24 Total Contact Hours/Week: 28Hrs			

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

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

SEM - I	
Professional Elective I	
3EN311	Biomedical Instrumentation
3EN312	Microelectronics
3EN313	Object Oriented Programming
3EN314	Linear Algebra From next year (17-18)

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

SEM-II	
Professional Elective II	
3EN331	Digital VLSI
3EN332	Optoelectronic Devices
3EN333	Advance Control System
Professional Elective III	
3EN334	Digital Image Processing
3EN335	Antenna & Wave propagation
3EN336	Speech Signal Processing
3EN337	Probability Theory



Walchand College of Engineering, Sangli

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Teaching and Evaluation scheme for Final Year B.Tech. Program in Electronics Engineering Semester I

Subject Code	Subject	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Scheme	Theory Marks		
							Max	Min for passing \$	
1OE***	Open Elective	3	-	-	3	ISE I	10	20	40
						MSE	30		
						ISE II	10		
						ESE	50		
1EN401	Real Time Operating System	3	-	-	3	ISE I	10	20	40
						MSE	30		
						ISE II	10		
						ESE	50		
1EN 402	Computer Network and Protocols	3	1	-	4	ISE I	10	20	40
						MSE	30		
						ISE II	10		
						ESE	50		
1EN4##	Elective I	3	1	-	4	ISE I	10	20	40
						MSE	30		
						ISE II	10		
						ESE	50		
1EN 4##	Elective II	3	-	-	3	ISE I	10	20	40
						MSE	30		
						ISE II	10		
						ESE	50		
1EN 4##	Elective III	3	1	-	4	ISE I	10	20	40
						MSE	30		
						ISE II	10		
						ESE	50		
1EN451	RTOS Lab	-	-	2	1	ISE	50	20	
						ESE	50	20	
						POE			
1EN 4##	Elective II Lab	-	-	2	1	ISE	50	20	
						ESE OE	50	20	
1EN481	Seminar	-	-	2	1	ISE	100	40	
Total		18	3	6	24	Total Credits: 24 Total Contact Hours/Week: 27hrs			

List of Elective subjects

Elective I

1EN411/ 3EN311	Biomedical Instrumentation	1EN412	Advanced Power Electronics
1EN413	Design Analysis and Algorithms	1EN414	Artificial Neural Network

Elective II

1EN 421	Analog VLSI Design	1EN 422	Microwave communication Engg.
1EN423	Image Processing and Pattern Recognition		

Elective II Lab:

1EN 471	Analog VLSI Design Lab	1EN 472	Microwave communication Engg Lab
1EN473	Image Processing and Pattern Recognition Lab		

Elective III

1EN431	CMOS VLSI Design	1 EN432	Mobile Communication Engg.
1 EN433	Digital System Engineering	1 EN434	Adaptive signal processing
1 EN611	VLSI-DSP	1IE 601	Probability and Random Processes



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Teaching and Evaluation scheme for Final Year B.Tech. Program in Electronics Engineering Semester II

Subject Code	Subject	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Scheme	Marks		
							Max	Min for passing	
1IC404	Industrial Management and Economics	4	-	-	4	ISEI	10	20	40
						MSE	30		
						ISEII	10		
						ESE	50		
1 EN482	Project	-	-	8	12	ISE	50	20	
						ESE	50	20	
		4		8	16	Total Credits: 16 Total Contact Hours/Week: 12 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