

# **Walchand College of Engineering, Sangli**

(An Autonomous Institute)



## **Curriculum (Structure)**

**for**

**B.Tech. Electronics 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 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	DE Lab	1	-	2	2	ISE	50	20
3EN 252	ECAD-I Lab	-	-	2	1	ESE POE	50	20
3EN 253	TMI Lab (ISE)	-	-	2	1	ISE	50	20
3EN 254	Data Structures and Algorithms Lab	2	-	2	3	ESE POE	50	20
Total		18	2	8	24	<b>Total Credits: 24</b> <b>Total Hours: 28</b>		



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**Semester II**

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



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**Third 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	
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	Control System LAB	-	-	2	1	ISE	50	20	
						ESE POE	50	20	
3EN352	ESD LAB	-	-	2	1	ISE	50	20	
						ESE POE	50	20	
3EN353	DSP LAB	-	-	2	1	ISE	50	20	
						ESE POE	50	20	
3EN354	EPD-I lab	1	-	2	2	ISE	100	40	
Total		19	1	8	24	<b>Total Credits: 24</b> <b>Total Hours: 28</b>			



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Teaching and Evaluation Scheme effective from 2016-17  
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Semester II

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	40
						MSE	30	
						ISE II	10	
						ESE	50	
3EN 321	Digital Communication	3	-	-	3	ISE I	10	40
						MSE	30	
						ISE II	10	
						ESE	50	
3EN 322	Power Electronics	3	-	-	3	ISE I	10	40
						MSE	30	
						ISE II	10	
						ESE	50	
3EN 323	Digital System Architecture	3	-	-	3	ISE I	10	40
						MSE	30	
						ISE II	10	
						ESE	50	
3EN***	Professional Elective II	3	-	-	3	ISE I	10	40
						MSE	30	
						ISE II	10	
						ESE	50	
3EN3***	Professional Elective III	3	1	-	4	ISE I	10	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	<b>Total Credits: 24</b> <b>Total Hours: 28</b>		

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

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

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

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 from year 2017-18

## Final year B. Tech. Program in Electronics Engineering Semester I

Subject Code	Subject	Teaching Scheme				Evaluation Scheme		
		L	T	P	Credits	Scheme	Marks	
							Max	Min for passing
1OE***	Open Elective III	3	-	-	3	ISE-1	10	40
						MSE	30	
						ISE-2	10	
						ESE	50	
2EN 401	Real Time Operating System	3	-	-	3	ISE-1	10	40
						MSE	30	
						ISE-2	10	
						ESE	50	
2EN 402	Computer Network and Protocols	3	1	-	4	ISE-1	10	40
						MSE	30	
						ISE-2	10	
						ESE	50	
2EN***	Professional Elective IV	3	-	-	3	ISE-1	10	40
						MSE	30	
						ISE-2	10	
						ESE	50	
2EN***	Professional Elective V	3	1	-	4	ISE-1	10	40
						MSE	30	
						ISE-2	10	
						ESE	50	
2EN 451	RTOS Lab	-	-	2	1	ISE	50	20
						ESE POE	50	20
2EN***	Professional Elective IV Lab	-	-	2	1	ISE	50	20
						ESE OE	50	20
2EN 491	Project I	-	-	2*	4	ISE OE	100	40
<b>Total</b>		15	2	6	23	<b>Total Credits: 23</b>		
						<b>Total Hours: 23hrs</b>		

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

**List of Elective subjects:****1 Professional Elective IV**

2EN 411	Analog VLSI Design	2EN 413	Microwave communication Engg.
2EN 412	System on Chip		

**2 Professional Elective IV Lab:**

2EN 452	Analog VLSI Design Lab	2EN 454	Microwave communication Engg Lab
2EN 453	System on Chip Lab		

**3 Professional Elective V**

2EN 414	Digital System Engineering	2EN 415	Mobile Communication Engg.
		2EN 416	Digital Video Engineering

<b>Open Elective III:</b>		
<b>Course Code</b>	<b>Course Name</b>	<b>Offered by Department</b>
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





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**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 \$	
3IC 401	Engineering Management, and Ethics	4	-	-	4	ISE-1	10	20	40
						MSE	30		
						ISE-2	10		
						ESE	50		
2EN ***	Professional Elective VI	3	-	-	3	ISE-1	10	20	40
						MSE	30		
						ISE-2	10		
						ESE	50		
2EN 492	Project II	-	-	8*	8	ISE	50	20	
						ESE	50	20	
		7	-	8	15	<b>Total Credits: 15</b>			
						<b>Total Hours: 15hrs</b>			

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

### Elective VI

2EN 431	VLSI DSP	2EN 432	Satellite Communication
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