

Walchand College of Engineering, Sangli

(An Autonomous Institute)



Curriculum (Structures)

for

**M.Tech. Programme in
Electronics Engineering**

Academic Year 2016-17



Walchand College of Engineering, Sangli

(An Autonomous Institute)

Teaching and Evaluation Scheme effective from 2016-17

First Year M.Tech. Program in Electronics Engineering

Semester I

| Course Code | Course | Teaching Scheme | | | | Evaluation Scheme | | | |
|---------------------|------------------------------------|-----------------|----|----|---------|--|-------|-----------|-----------------|
| | | | | | | Component | Marks | | |
| | | L | T | P | Credits | | | Max Marks | Min for Passing |
| 2IC501 (2IC601) | Research Methodology | 2 | -- | -- | 2 | ISE 1 | 10 | | 40 |
| | | | | | | MSE | 30 | | |
| | | | | | | ISE 2 | 10 | | |
| | | | | | | ESE | 50 | 20 | |
| 2IE5** (2EN6**) | Institute Elective- I | 3 | -- | -- | 3 | ISE 1 | 10 | | 40 |
| | | | | | | MSE | 30 | | |
| | | | | | | ISE 2 | 10 | | |
| | | | | | | ESE | 50 | 20 | |
| 2EN5** (2EN6***) | Professional Elective- I | 3 | -- | -- | 3 | ISE 1 | 10 | | 40 |
| | | | | | | MSE | 30 | | |
| | | | | | | ISE 2 | 10 | | |
| | | | | | | ESE | 50 | 20 | |
| 2EN501 (2EN601) | Advanced Digital Signal Processing | 3 | -- | -- | 3 | ISE 1 | 10 | | 40 |
| | | | | | | MSE | 30 | | |
| | | | | | | ISE 2 | 10 | | |
| | | | | | | ESE | 50 | 20 | |
| 2EN502 (2EN602) | Probability and Random Processes | 3 | 1 | -- | 4 | ISE 1 | 10 | | 40 |
| | | | | | | MSE | 30 | | |
| | | | | | | ISE 2 | 10 | | |
| | | | | | | ESE | 50 | 20 | |
| 2EN503 (2EN603) | CMOS-VLSI Design | 3 | -- | -- | 3 | ISE 1 | 10 | | 40 |
| | | | | | | MSE | 30 | | |
| | | | | | | ISE 2 | 10 | | |
| | | | | | | ESE | 50 | 20 | |
| 2EN551 (2EN641) | Real Time Systems Lab | 2 | -- | 2 | 3 | ISE | 50 | 20 | |
| | | | | | | ESE (POE) | 50 | 20 | |
| 2EN552 (2EN653) | CMOS Lab | -- | -- | 2 | 1 | ISE | 50 | 20 | |
| | | | | | | ESE (POE) | 50 | 20 | |
| 2EN541 (2EN642) | Seminar- I | -- | -- | 2 | 1 | ISE | 100 | 40 | |
| Total | | 19 | 1 | 6 | 23 | Total Credit: 23 Total Contact Hours/Week: 26 hrs | | | |

| Professional Elective- I | |
|---------------------------------|--|
| Course Code | Course |
| 2EN 511 (2EN 605) | VLSI Testing and Testability |
| 2EN 512 (2EN 606) | Fundamentals of Image and Video Processing |
| 2EN 513 (2EN 607) | System on Chip |

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 | Component | Marks | | |
| | | | | | | | Max Marks | Min for Passing | |
| 2IC502 (2I602) | Project Management | 2 | -- | -- | 2 | ISE 1 | 10 | 20 | 40 |
| | | | | | | MSE | 30 | | |
| | | | | | | ISE 2 | 10 | | |
| | | | | | | ESE | 50 | | |
| 2IE5** (2EE626) | Institute Elective- II | 3 | -- | -- | 3 | ISE 1 | 10 | 20 | 40 |
| | | | | | | MSE | 30 | | |
| | | | | | | ISE 2 | 10 | | |
| | | | | | | ESE | 50 | | |
| 2EN5** (2EN6***) | Professional Elective- II | 3 | -- | -- | 3 | ISE 1 | 10 | 20 | 40 |
| | | | | | | MSE | 30 | | |
| | | | | | | ISE 2 | 10 | | |
| | | | | | | ESE | 50 | | |
| 2EN521 (2EN611) | IoT Protocols and Applications | 3 | 1 | -- | 4 | ISE 1 | 10 | 20 | 40 |
| | | | | | | MSE | 30 | | |
| | | | | | | ISE 2 | 10 | | |
| | | | | | | ESE | 50 | | |
| 2EN522 (2EN612) | Embedded Linux | 3 | -- | -- | 3 | ISE 1 | 10 | 20 | 40 |
| | | | | | | MSE | 30 | | |
| | | | | | | ISE 2 | 10 | | |
| | | | | | | ESE | 50 | | |
| 2EN523 (2EN613) | Digital Systems Engineering | 3 | -- | -- | 3 | ISE 1 | 10 | 20 | 40 |
| | | | | | | ISE 2 | 10 | | |
| | | | | | | MSE | 30 | | |
| | | | | | | ESE | 50 | | |
| 2EN571 (2EN662) | Embedded Linux Lab | -- | -- | 2 | 1 | ISE | 50 | 20 | |
| | | | | | | ESE POE | 50 | 20 | |
| 2EN572 (2EN6**) | Elective Lab | -- | -- | 2 | 1 | ISE | 50 | 20 | |
| | | | | | | ESE POE | 50 | 20 | |
| 2EN542 (2EN643) | Pre dissertation Seminar | -- | -- | 2 | 1 | ISE | 100 | 40 | |
| Total | | 17 | 1 | 6 | 21 | Total Credit: 21 Total Contact Hours/Week: 24 hrs | | | |

| Professional Elective- II Theory | | Professional Elective- II Lab | |
|----------------------------------|--------------------------|-------------------------------|------------------------------|
| Course Code | Course | Course Code | Course |
| 2EN531 (2EN615) | Analog VLSI Design | 2EN 581 | Analog VLSI Design Lab |
| 2EN532 (2EN616) | VLSI DSP | 2EN 582 | VLSI DSP Lab |
| 2EN533 (2EN617) | Wireless Sensor Networks | 2EN 583 | Wireless Sensor Networks Lab |



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Second Year M.Tech. Program in Electronics Engineering

Semester III

| Course Code | Course | Teaching Scheme | | | Evaluation Scheme | | | | |
|--------------------|------------------------------|-----------------|----|---|-------------------|---------|--------------------|--|--|
| | | L | T | P | Component | Credits | Practical (Marks) | | |
| | | | | | | | Max | Min for Passing | |
| 2EN691 (1EN691) | Dissertation Phase I | -- | -- | 5 | ISE | 4 | 100 | 40 | |
| 2EN692 (2EN692) | Dissertation Phase II ISE | -- | -- | | ISE | 2 | 100 | 40 | |
| 2CS693 (1EN692) | Dissertation Phase II ESE | | | | ESE | 4 | 100 | 40 | |
| Total | | | | | -- | -- | 5 | Total Credit: 10 Average Contact hours/week/student: 5 Hrs | |

Semester IV

| Course Code | Course | Teaching Scheme | | | Evaluation Scheme | | | | |
|--------------------|---------------------------|-----------------|----|---|-------------------|---------|---------------------|--|--|
| | | L | T | P | Component | Credits | Practical (Marks %) | | |
| | | | | | | | Max | Min for Passing | |
| 2EN694 (1EN693) | Dissertation Phase III | -- | -- | 5 | ISE | 5 | 100 | 40 | |
| 2EN695 (1EN694) | Dissertation Phase IV ISE | -- | -- | | ISE | 5 | 100 | 40 | |
| 2EN696 (2EN694) | Dissertation Phase IV ESE | | | | ESE | 10 | 100 | 40 | |
| Total | | | | | -- | -- | 5 | Total Credit: 20 Average Contact hours/week/student: 5 Hrs | |

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