

B. Tech. COURSE STRUCTURE

**ELECTRONICS & COMMUNICATION ENGINEERING**

Modified Course structure effective from July, 2008 batch

**3<sup>rd</sup> Semester:**

| Code         | Subject  | L-T-P         | Credit    |
|--------------|--|---------------|-----------|
| EC 201       | Electrical Science - II                                | 3-1-0         | 8         |
| EC 202*      | Electrical Science lab                                 | 0-0-2         | 2         |
| MA 201       | Mathematics - III                                      | 3-1-0         | 8         |
| HU 201       | Humanities - II (Industrial Sociology and Accountancy) | 3-0-0         | 6         |
| CS 201       | Data Structures  | 3-1-2         | 10        |
| EC 203       | Introduction to Semiconductor Devices                  | 3-0-0         | 6         |
| MA 202       | Probability Theory and Stochastic Processes            | 3-1-0         | 8         |
| <b>TOTAL</b> |  | <b>18-4-4</b> | <b>48</b> |

**4<sup>th</sup> Semester:**

| Code         | Subject                                    | L-T-P         | Credit    |
|--------------|--|---------------|-----------|
| EE 301       | Control Systems - I                        | 3-0-0         | 6         |
| EE 302       | Control Systems Lab                        | 0-0-2         | 2         |
| EC 210       | Signals & Systems                          | 3-1-0         | 8         |
| EC 204       | Digital Electronic Circuits                | 3-1-0         | 8         |
| EC 209       | Digital Electronic Circuits Lab            | 0-0-2         | 2         |
| EC 205       | Electromagnetic Field and Wave Propagation | 3-1-0         | 8         |
| EC 206       | Communication Engineering - I              | 3-1-0         | 8         |
| EC 207       | Linear Electronic Circuits                 | 3-1-0         | 8         |
| EC 208       | Linear Electronic Circuits Lab             | 0-0-2         | 2         |
| <b>TOTAL</b> |  | <b>18-5-6</b> | <b>52</b> |

**5<sup>th</sup> semester:**

| Code         | Subject                                | L-T-P         | Credit    |
|--------------|--|---------------|-----------|
| MA 301       | Numerical Methods & Computations       | 2-1-0         | 6         |
| CS 301       | System Programming                     | 3-1-0         | 8         |
| CS 303       | Computer Organization and Architecture | 3-1-0         | 8         |
| EC 301       | Communication Engineering - II         | 3-1-0         | 8         |
| EC 303       | Microprocessors & Microcontrollers     | 3-0-0         | 6         |
| EC 305       | Advanced Electronic Circuits           | 3-0-2         | 8         |
| EC 311       | Communication Engineering Lab - I      | 0-0-2         | 2         |
| EC 313       | Microprocessors & Microcontroller Lab  | 0-0-2         | 2         |
| <b>Total</b> |  | <b>17-4-6</b> | <b>48</b> |

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### 6<sup>th</sup> semester:

| Code         | Subject                                 | L-T-P         | Credit    |
|--------------|---|---------------|-----------|
| HU 301       | Humanities - III (Managerial Economics) | 3-1-0         | 8         |
| EC 302       | Digital Signal Processing               | 3-0-2         | 8         |
| EC 304       | Electronic Measurements & Instruments   | 3-0-0         | 6         |
| EC 306       | Integrated Circuits & Systems           | 3-0-0         | 6         |
| EC 308       | RF and Microwave Engineering            | 3-0-0         | 6         |
| CS 306       | Computer Networks                       | 3-1-0         | 8         |
| EC 312       | DSP Lab                                 | 0-0-2         | 2         |
| <b>Total</b> |   | <b>18-2-4</b> | <b>44</b> |

### 7<sup>th</sup> semester:

| Code         | Subject                                 | L-T-P          | Credit    |
|--------------|---|----------------|-----------|
| EC 401       | VLSI Design                             | 3-0-2          | 8         |
| EC 403       | Telecommunication Switching             | 3-0-0          | 6         |
| EC 405       | Optoelectronics & Optical Communication | 3-0-0          | 6         |
| EC 42X       | Elective-I                              | 3-0-0          | 6         |
| EC 42X       | Elective-II                             | 3-0-0          | 6         |
| EC 406       | Project - I                             | 0-0-6          | 6         |
| EC 411       | Communication Engineering Lab-II        | 0-0-2          | 2         |
| EC 315       | Industrial Training                     | 0-0-2          | 2         |
| <b>Total</b> |   | <b>15-0-12</b> | <b>42</b> |

### 8<sup>th</sup> Semester:

| Code         | Subject                                   | L-T-P          | Credit    |
|--------------|---|----------------|-----------|
| HU 401       | Management and Economics of Globalisation | 3-0-0          | 6         |
| CE 414       | Environmental Studies                     | 3-0-0          | 6         |
| EC 43X       | Elective - III                            | 3-0-0          | 6         |
| EC/CS 43Y    | Elective - IV                             | 3-0-0          | 6         |
| EC 43Y       | Open / Institute Elective                 | 3-0-0          | 6         |
| EC 407       | Project - II                              | 0-0-15         | 15        |
| <b>Total</b> |   | <b>15-0-15</b> | <b>45</b> |

**Grand Total Credit Points = 377**

## B. Tech. COURSE STRUCTURE

### Elective - I & II

|        |  |
|--------|--|
| EC 421 | Biomedical Instrumentation                           |
| EC 423 | Higher Power Semiconductor<br>Devices                |
| EC 424 | Satellite Communication                              |
| EC 425 | Image Processing and its<br>Applications             |
| EC 426 | Embedded System Design                               |
| EC 427 | Information Theory, Error Coding<br>and Applications |
| CS 421 | Digital Image Processing                             |
| CS 422 | Information Theory and Coding                        |
| CS 427 | Artificial Intelligence                              |

### Elective -III & IV

|        |                                    |
|--------|------------------------------------|
| EC 431 | Low Power VLSI Design.             |
| EC 432 | Simulation of Circuits and Devices |
| EC 433 | Wireless Communication             |
| EC 434 | Antenna and Wave Propagation       |
| EC 435 | Fault Tolerant System              |
| EC 436 | Telemetry                          |
| EC 437 | Adaptive Signal Processing         |
| EC 438 | Fuzzy Logic and Neural Networks    |
| CS 431 | Pattern Recognition                |

### Institute/Open Elective

|        |                               |
|--------|-------------------------------|
| CS 442 | Object Oriented System Design |
| EC 441 | MEMS                          |

### Institute/Open Elective

|        |                        |
|--------|------------------------|
| CS 441 | Neural Network         |
| EC 442 | Industrial Electronics |

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\* To be shared between Electrical and Electronics & Communication Engineering Departments