

**Mahatma Gandhi University Revised Scheme For**  
**B Tech Syllabus Revision 2010 (Electronics & Communication**  
**Engineering)**  
**Common for All Branches**  
**SCHEME S1S2**

| Code      | Subject                                                 | Hours/week |           |          | Marks    |         | End-sem<br>duration-<br>hours | Credits   |
|-----------|---------------------------------------------------------|------------|-----------|----------|----------|---------|-------------------------------|-----------|
|           |                                                         | L          | T         | P/D      | Internal | End-sem |                               |           |
| EN010 101 | Engineering Mathematics I                               | 2          | 1         | -        | 50       | 100     | 3                             | 5         |
| EN010 102 | Engineering Physics                                     | 1          | 1         | -        | 50       | 100     | 3                             | 4         |
| EN010 103 | Engineering. Chemistry & Environmental Studies          | 1          | 1         | -        | 50       | 100     | 3                             | 4         |
| EN010 104 | Engineering Mechanics                                   | 3          | 1         | -        | 50       | 100     | 3                             | 6         |
| EN010 105 | Engineering Graphics                                    | 1          | 3         | -        | 50       | 100     | 3                             | 6         |
| EN010 106 | Basic Civil Engineering                                 | 1          | 1         | -        | 50       | 100     | 3                             | 4         |
| EN010 107 | Basic Mechanical Engineering                            | 1          | 1         | -        | 50       | 100     | 3                             | 4         |
| EN010 108 | Basic Electrical Engineering                            | 1          | 1         | -        | 50       | 100     | 3                             | 4         |
| EN010 109 | Basic Electronics Engineering. & Information Technology | 2          | 1         | -        | 50       | 100     | 3                             | 5         |
| EN010 110 | Mechanical Workshop                                     | 0          | -         | 3        | 50       | -       | 3                             | 1         |
| EN010 111 | Electrical and Civil Workshops                          | -          | -         | 3        | 100      | -       | 3                             | 1         |
|           | <b>Total</b>                                            | <b>13</b>  | <b>11</b> | <b>6</b> |          |         | <b>30</b>                     | <b>44</b> |

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

| Code       | Subject                            | Hours/week |          |          | Marks    |         | End-sem<br>duration-<br>hours | Credits    |
|------------|------------------------------------|------------|----------|----------|----------|---------|-------------------------------|------------|
|            |                                    | L          | T        | P/D      | Internal | End-sem |                               |            |
| EN010 301A | Engineering Mathematics II         | 2          | 2        | -        | 50       | 100     | 3                             | 4          |
| EN010 302  | Economics and Communication Skills | 2          | 2        | -        | 50       | 100     | 3                             | 4<br>(3+1) |
| EC010 303  | Network Theory                     | 2          | 2        | -        | 50       | 100     | 3                             | 4          |
| EC010 304  | Solid State Devices                | 3          | 1        | -        | 50       | 100     | 3                             | 4          |
| EC010 305  | Analog Circuits - I                | 3          | 1        | -        | 50       | 100     | 3                             | 4          |
| EC010 306  | Computer Programming               | 3          | 1        | -        | 50       | 100     | 3                             | 4          |
| EC010 307  | Analog Circuits Lab                | -          | -        | 3        | 50       | 100     | 3                             | 2          |
| EC010 308  | Programming Lab                    | -          | -        | 3        | 50       | 100     | 3                             | 2          |
|            | <b>Total</b>                       | <b>15</b>  | <b>9</b> | <b>6</b> |          |         |                               | <b>28</b>  |

#### 4<sup>th</sup> Semester

| Code          | Subject                               | Hours/week |          |          | Marks    |         | End-sem<br>duration-<br>hours | Credits   |
|---------------|---------------------------------------|------------|----------|----------|----------|---------|-------------------------------|-----------|
|               |                                       | L          | T        | P/D      | Internal | End-sem |                               |           |
| EN010 401     | Engineering Mathematics III           | 2          | 2        | -        | 50       | 100     | 3                             | 4         |
| EN010 402(ME) | Principles of Management(C,M,P,L,A,T) | 3          | 1        | -        | 50       | 100     | 3                             | 4         |
| EC010 403     | Signals and Systems                   | 2          | 2        | -        | 50       | 100     | 3                             | 4         |
| EC010 404     | Digital Electronics                   | 3          | 1        | -        | 50       | 100     | 3                             | 4         |
| EC010 405     | Analog Communication                  | 3          | 1        | -        | 50       | 100     | 3                             | 4         |
| EC010 406     | Analog Circuits -II                   | 3          | 1        | -        | 50       | 100     | 3                             | 4         |
| EC010 407     | <i>Analog Circuits -II Lab</i>        | -          | -        | 3        | 50       | 100     | 3                             | 2         |
| EC010 408     | <i>Analog Communication Lab</i>       | -          | -        | 3        | 50       | 100     | 3                             | 2         |
|               | <b>Total</b>                          | <b>16</b>  | <b>8</b> | <b>6</b> |          |         |                               | <b>28</b> |

#### 5<sup>th</sup> Semester

| Code          | Subject                                  | Hours/week |          |          | Marks    |         | End-sem<br>duration-<br>hours | Credits   |
|---------------|------------------------------------------|------------|----------|----------|----------|---------|-------------------------------|-----------|
|               |                                          | L          | T        | P/D      | Internal | End-sem |                               |           |
| EN010 501A    | Engineering Mathematics IV               | 2          | 2        | -        | 50       | 100     | 3                             | 4         |
| EC010 502     | Control Systems                          | 2          | 2        |          | 50       | 100     | 3                             | 4         |
| EC010 503     | Digital System Design                    | 3          | 1        | -        | 50       | 100     | 3                             | 4         |
| EC010 504(EF) | Electrical Drives and Control            | 3          | 1        | -        | 50       | 100     | 3                             | 4         |
| EC010 505     | Applied Electromagnetic Theory           | 3          | 1        | -        | 50       | 100     | 3                             | 4         |
| EC010 506     | Microprocessors and Applications         | 3          | 1        | -        | 50       | 100     | 3                             | 4         |
| EC010 507     | <i>Digital Electronics Lab</i>           | -          | -        | 3        | 50       | 100     | 3                             | 2         |
| EC010 508(EF) | <i>Electrical Drives and Control Lab</i> | -          | -        | 3        | 50       | 100     | 3                             | 2         |
|               | <b>Total</b>                             | <b>16</b>  | <b>8</b> | <b>6</b> |          |         |                               | <b>28</b> |

## 6<sup>th</sup> Semester

| Code         | Subject                                       | Hours/week |          |          | Marks    |         | End-sem duration<br>hours | Credits   |
|--------------|-----------------------------------------------|------------|----------|----------|----------|---------|---------------------------|-----------|
|              |                                               | L          | T        | P/D      | Internal | End-sem |                           |           |
| EC010 601    | Digital Communication Techniques              | 2          | 2        | -        | 50       | 100     | 3                         | 4         |
| EC010 602    | Digital Signal Processing                     | 2          | 2        | -        | 50       | 100     | 3                         | 4         |
| EC010 603    | Radiation and Propagation                     | 3          | 1        | -        | 50       | 100     | 3                         | 4         |
| EC010 604    | Computer Architecture and Parallel Processing | 3          | 1        | -        | 50       | 100     | 3                         | 4         |
| EC010 605    | Microcontrollers and Applications             | 3          | 1        | -        | 50       | 100     | 3                         | 4         |
| EC010 606Lxx | Elective I                                    | 3          | 1        | -        | 50       | 100     | 3                         | 4         |
| EC010 607    | <i>Microprocessor and Microcontroller Lab</i> | -          | -        | 3        | 50       | 100     | 3                         | 2         |
| EC010 608    | <i>Mini Project Lab</i>                       | -          | -        | 3        | 50       | 100     | 3                         | 2         |
|              | <b>Total</b>                                  | <b>16</b>  | <b>8</b> | <b>6</b> |          |         |                           | <b>28</b> |

### Elective I

EC010 606L01 – Data Structures and Algorithms  
 EC010 606L02 – Data Base Management Systems  
 EC010 606L03 – High Speed Digital Design  
 EC010 606L04 – Medical Electronics  
 EC010 606L05 – Soft Computing Techniques  
 EC010 606L06 – Television and Radar Engineering

## 7<sup>th</sup> Semester

| Code         | Subject                           | Hours/week |          |          | Marks    |         | End-sem duration<br>-hours | Credits   |
|--------------|-----------------------------------|------------|----------|----------|----------|---------|----------------------------|-----------|
|              |                                   | L          | T        | P/D      | Internal | End-sem |                            |           |
| EC010 701    | VLSI Design                       | 2          | 2        | -        | 50       | 100     | 3                          | 4         |
| EC010 702    | Information Theory and Coding     | 2          | 2        | -        | 50       | 100     | 3                          | 4         |
| EC010 703    | Microwave Engineering             | 2          | 1        | -        | 50       | 100     | 3                          | 3         |
| EC010 704    | Electronic Instrumentation        | 2          | 1        | -        | 50       | 100     | 3                          | 3         |
| EC010 705    | Embedded Systems                  | 2          | 1        | -        | 50       | 100     | 3                          | 3         |
| EC010 706Lxx | Elective II                       | 2          | 2        | -        | 50       | 100     | 3                          | 4         |
| EC010 707    | <i>Advanced Communication Lab</i> | -          | -        | 3        | 50       | 100     | 3                          | 2         |
| EC010 708    | <i>Signal Processing Lab</i>      | -          | -        | 3        | 50       | 100     | 3                          | 2         |
| EC010 709    | Seminar                           | -          | -        | 2        | 50       | -       | -                          | 2         |
| EC010 710    | <i>Project</i>                    | -          | -        | 1        | 50       | -       | -                          | 1         |
|              | <b>Total</b>                      | <b>12</b>  | <b>9</b> | <b>9</b> |          |         |                            | <b>28</b> |

### Elective II

EC010 706L01 – Optimization Techniques  
 EC010 706L02 – Speech and Audio Processing

EC010 706L03 – Digital Image Processing  
 EC010 706L04 – Wavelets and Applications  
 EC010 706L05 – Antenna Theory and Design  
 EC010 706L06 – System Software

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

| Code         | Subject                              | Hours/week |           |          | Marks    |         | End-sem<br>duration-<br>hours | Credits   |
|--------------|--------------------------------------|------------|-----------|----------|----------|---------|-------------------------------|-----------|
|              |                                      | L          | T         | P/D      | Internal | End-sem |                               |           |
| EC010 801    | Wireless Communication               | 3          | 2         | -        | 50       | 100     | 3                             | 4         |
| EC010 802    | Communication Networks               | 2          | 2         | -        | 50       | 100     | 3                             | 4         |
| EC010 803    | Light Wave Communication             | 2          | 2         | -        | 50       | 100     | 3                             | 4         |
| EC010 804Lxx | Elective III                         | 2          | 2         | -        | 50       | 100     | 3                             | 4         |
| EC010 805Gxx | Elective IV                          | 2          | 2         | -        | 50       | 100     | 3                             | 4         |
| EC010 806    | <i>VLSI and Embedded Systems Lab</i> | -          | -         | 3        | 50       | 100     | 3                             | 2         |
| EC010 807    | Project                              | -          | -         | 6        | 100      | -       | -                             | 4         |
| EC010 808    | Viva Voce                            | -          | -         | -        | -        | 50      | -                             | 2         |
|              | <b>Total</b>                         | <b>11</b>  | <b>10</b> | <b>9</b> |          |         |                               | <b>28</b> |

### **Electives III**

EC010 804L01 – Nano Electronics  
 EC010 804L02 – Micro Electro Mechanical Systems  
 EC010 804L03 – Secure Communication  
 EC010 804L04 – Management Information Systems  
 EC010 804L05 – Pattern Recognition  
 EC010 804L06 – R F Circuits

### **Electives IV**

EC010 805G01 – Test Engineering  
 EC010 805G02 – E-Learning  
 EC010 805G03 – Mechatronics  
 EC010 805G04 – Bio Informatics  
 EC010 805G05 – Intellectual Property Rights  
 EC010 805G06 – Professional Ethics