

**UNIVERSITY OF ENGINEERING AND MANAGEMENT, KOLKATA B. TECH – ELECTRONICS & COMMUNICATION ENGINEERING**

**Second Year Third Semester**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A.THEORY** | | | | | | | | | | | | |
| **Sl**  **No.** | **Subject**  **Code** | | **Theory** | | | **Contact Hours/Week** | | | | | | **Credit**  **Points** |
|  |  | |  | | | **L** | | **T** | **P** | **Total** | |  |
| **1** | **M(CS)301** | | Numerical Methods | | | 2 | | 1 | 0 | 3 | | 2 |
| **2** | **M302** | | Mathematics-III | | | 3 | | 1 | 0 | 4 | | 4 |
| **3** | **EC301** | | 1. Circuit Theory & Networks | | | 3 | | 0 | 0 | 4 | | 4 |
| **4** | **EC302** | | 2. Solid State Device | | | 3 | | 0 | 0 | 3 | | 3 |
| **5** | **EC303** | | 1. Signals & Systems | | | 3 | | 0 | 0 | 3 | | 3 |
| **6** | **EC304** | | 2.Analog Electronic Circuits | | | 3 | | 1 | 0 | 4 | | 4 |
| **Total of Theory** | | | | | | | | | | **21** | | **20** |
| **B. PRACTICAL** | | | | | | | | | | | | |
| **7** | **M(CS)391** | | | Numerical Lab | | 0 | | 0 | 2 | 2 | 1 | |
| **8** | **EC391** | | | Circuit Theory & Network Lab | | 0 | | 0 | 3 | 3 | 2 | |
| **9** | **EC392** | | | Solid State Devices | | 0 | | 0 | 3 | 3 | 2 | |
| **10** | **EC393** | | | 1. Signal System Lab | | 0 | | 0 | 3 | 3 | 2 | |
| **11** | **EC394** | | | 2.Analog Electronic Circuits  Lab | | 0 | | 0 | 3 | 3 | 2 | |
| **Total of Practical** | | | | | | | | | | **14** | **9** | |
| **C. SESSIONAL** | | | | | | | | | | | | |
| **12** | | **GS381** | | | General Studies - III  Lab | | 3 | 1 | 0 | 4 | 4 | |
| **Total of Sessional** | | | | | | | | | | **4** | **4** | |
| **Total of Semester** | | | | | | | | | | **39** | **33** | |



**Second Year Fourth Semester**

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| **A.THEORY** | | | | | | | | | | | | | | |
| **Sl**  **No.** | | **Subject**  **Code** | | **Theory** | **Contact Hours/Week** | | | | | | | | | **Credit**  **Points** |
|  | |  | |  | **L** | | **T** | | | **P** | | **Total** | |  |
| **1** | | **HU401** | | Values & Ethics in Profession | 3 | | 0 | | | 0 | | 3 | | 3 |
| **2** | | **CH401** | | Basic Environmental  Engineering & Elementary  Biology | 3 | | 0 | | | 0 | | 3 | | 3 |
| **3** | | **EC401** | | 1. EM Theory & Transmission  Lines | 3 | | 1 | | | 0 | | 4 | | 4 |
| **4** | | **EC402** | | 2. Digital Electronic &  Integrated Circuits | 3 | | 1 | | | 0 | | 4 | | 4 |
| **5** | | **EC403** | | Computer Organisation and  Architecture | 3 | | 1 | | | 0 | | 4 | | 4 |
| **Total of Theory** | | | | | | | | | | | | **18** | | **18** |
| **B. PRACTICAL** | | | | | | | | | | | | | | |
| **6** | | **HU481** | | Technical Report Writing &  Language Lab Practice | 0 | | 0 | | | 3 | 3 | | 2 | |
| **7** | | **EC491** | | 1. EM Theory &Tx Lines Lab | 0 | | 0 | | | 3 | 3 | | 2 | |
| **8** | | **EC492** | | 2. Digital Electronic &  Integrated Circuits Lab | 0 | | 0 | | | 3 | 3 | | 2 | |
| **9** | | **EC493** | | Computer Organisation and  Architecture Lab | 0 | | 0 | | | 3 | 3 | | 2 | |
| **Total of Practical** | | | | | | | | | | | **12** | | **8** | |
| **C. SESSIONAL** | | | | | | | | | | | | | | |
| **10** | **GS481** | | General Studies - IV  Lab | | | 3 | | 1 | 0 | | 4 | | 4 | |
| **Total of Sessional** | | | | | | | | | | | **4** | | **4** | |
| **Total of Semester** | | | | | | | | | | | **34** | | **30** | |



**Third Year – Fifth Semester**

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| **A.THEORY** | | | | | | | | | | | | | | |
| **Sl**  **No.** | **Subject**  **Code** | | **Theory** | | | | **Contact Hours/Week** | | | | | | | **Credit**  **Points** |
|  |  | |  | | | | **L** | | **T** | | **P** | **Total** | |  |
| **1** | HU501 | | Economics for Engineers | | | | 3 | | 0 | | 0 | 3 | | 3 |
| **2** | EC-501 | | Analog Communication | | | | 3 | | 1 | | 0 | 4 | | 4 |
| **3** | EC-502 | | Microprocessors & Microcontrollers | | | | 3 | | 1 | | 0 | 4 | | 4 |
| **4** | EC-503 | | Control System | | | | 3 | | 0 | | 0 | 3 | | 3 |
| **5** | F. E.-  EC 504A EC-504B | | Design and Analysis of Algorithm Object Oriented Programming using Java | | | | 3 | | 1 | | 0 | 4 | | 3/4 |
| **Total of Theory** | | | | | | | | | | | | **18** | | **18** |
| **B. PRACTICAL** | | | | | | | | | | | | | | |
| **6** | EC-591 | | | | Analog Communication | | 0 | | 0 | | 3 | | 3 | 2 |
| **7** | EC-592 | | | | Microprocessors &  Microcontrollers | | 0 | | 0 | | 3 | | 3 | 2 |
| **8** | EC -593 | | | | Control System | | 0 | | 0 | | 3 | | 3 | 2 |
| **9** | F.E.  EC-594A EC-594B | | | | Design and Analysis of Algorithm Object Oriented Programming using Java | | 0 | | 0 | | 3 | | 3 | 2 |
| **Total of Practical** | | | | | | | | | | | | | **12** | **8** |
| **C. SESSIONAL** | | | | | | | | | | | | | | |
| **10** | | **GS581** | | General Studies - V  Lab | | 3 | | 1 | | 0 | | | 4 | 4 |
| **Total of Sessional** | | | | | | | | | | | | | **4** | **4** |
| **Total of Semester** | | | | | | | | | | | | | **34** | **30** |



**Third Year – Sixth Semester**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A.THEORY** | | | | | | | | | | | | | | | |
| **Sl**  **No.** | | **Subject**  **Code** | **Theory** | | | | **Contact Hours/Week** | | | | | | | | **Credit**  **Points** |
|  | |  |  | | | | **L** | | | **T** | | **P** | **Total** | |  |
| **1** | | **HU601** | Principles of Management | | | | 2 | | | 0 | | 0 | 2 | | 2 |
| **2** | | EC601 | Digital Communications | | | | 3 | | | 0 | | 0 | 3 | | 3 |
| **3** | | EC602 | Digital Signal Processing | | | | 3 | | | 0 | | 0 | 3 | | 3 |
| **4** | | EC 603 | Telecommunication System | | | | 3 | | | 0 | | 0 | 3 | | 3 |
| **5** | | (No Lab)  EC-604A EC-604B | Antenna Theory & Propagation  Information Theory & Coding | | | | 3 | | | 0 | | 0 | 3 | | 3 |
| **6** | | (With Lab)  EC-605A EC-605B EC-605C | Operating System  Data Base Management Systems Electronic Measurement& Instrumentation | | | | 3 | | | 0 | | 0 | 3 | | 3 |
| **Total of Theory** | | | | | | | | | | | | | **17** | | **17** |
| **B. PRACTICAL** | | | | | | | | | | | | | | | |
| **7** | | EC691 | Digital Communications | | 0 | | | | 0 | | | 3 | | 3 | 2 |
| **8** | | EC 692 | Digital Signal Processing | | 0 | | | | 0 | | | 3 | | 3 | 2 |
| **9** | | F.E.  EC-695A EC-695B EC-695C | Operating System  Data Base Management  Systems  Electronic Measurement & Instrumentation | | 0 | | | | 0 | | | 3 | | 3 | 2 |
| **10** | | EC-681 | **Seminar** | | 0 | | | | 0 | | | 3 | | 3 | 2 |
| **Total of Practical** | | | | | | | | | | | | | | **12** | **8** |
| **C. SESSIONAL** | | | | | | | | | | | | | | | |
| **11** | **GS681** | | | General Studies - VI  Lab | | 3 | | 1 | | | 0 | | | 4 | 4 |
| **Total of Sessional** | | | | | | | | | | | | | | **4** | **4** |
| **Total of Semester** | | | | | | | | | | | | | | **33** | **29** |



**Fourth Year – Seventh Semester**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **A.THEORY** | | | | | | | | | | | | | | | |
| **Sl**  **No.** | **Subject**  **Code** | | | | **Theory** | | **Contact Hours/Week** | | | | | | | | **Credit**  **Points** |
|  |  | | | |  | | **L** | | | **T** | | | **P** | **Total** |  |
| **1** | **EC701** | | | | Wireless Communication & N/W | | 3 | | | 0 | | | 0 | 3 | 3 |
| **2** | **EC702** | | | | Microelectronics & VLSI Designs | | 3 | | | 0 | | | 0 | 3 | 3 |
| **3** | **EC703**  (With  Lab) | | | | A. RF & Microwave Engineering.  B. Optical Communication & N/W C. Computer Networks  D. FPGA & Reconfigurable Computing | | 3 | | | 0 | | | 0 | 3 | 3 |
| **4** | **EC704**  (No Lab) | | | | A. Radar Engg  B. Embedded Systems  C. Biomedical Instrumentation | | 3 | | | 0 | | | 0 | 3 | 3 |
| **5** | **F. E.**  **EC705** | | | | A. Artificial Intelligence  B. Robotics  C. Software Engineering  D. Power Electronics | | 3 | | | 0 | | | 0 | 3 | 3 |
| **Total of Theory** | | | | | | | | | | | | | | **15** | **15** |
| **B. PRACTICAL** | | | | | | | | | | | | | | | |
| **6** | **HU78**  **1** | | Group Discussion | | | | 0 | | | 0 | | | 3 | 3 | 2 |
| **7** | **EC79**  **2** | | VLSI Design Lab | | | | 0 | | | 0 | | | 3 | 3 | 2 |
| **8** | **EC79**  **3** | | A. RF & Microwave Engg. Lab  B. Optical Communication & N/W Lab  C. Computer Networks Lab  D. FPGA & Reconfigurable Computing lab | | | | 0 | | | 0 | | | 3 | 3 | 2 |
| **9** | **F.E**  **EC79**  **5** | | A.Artificial Intelligence Lab  B.Robotics lab C.Software Engineering D.Power Electronics Lab | | | | 0 | | | 0 | | | 3 | 3 | 2 |
| **10** | **EC78**  **1** | | Industrial training | | | | 4 weeks during 6th -7 thSem-break | | | | | | | | 2 |
| **11** | **EC78**  **2** | | Project- 1 | | | |  |  | | | |  | | 3 | 2 |
| **Total of Practical** | | | | | | | | | | | | | | **15** | **12** |
| **C. SESSIONAL** | | | | | | | | | | | | | | | |
| **12** | | **GS781** | | General Studies - VII  Lab | | 3 | | | 1 | | 0 | | | 4 | 4 |
| **Total of Sessional** | | | | | | | | | | | | | | **4** | **4** |
| **Total of Semester** | | | | | | | | | | | | | | **34** | **31** |



**Fourth Year – Eighth Semester**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **A.THEORY** | | | | | | | | | | | | | | | |
| **Sl**  **No.** | | **Subject**  **Code** | **Theory** | | | | | **Contact Hours/Week** | | | | | | | **Credit**  **Points** |
|  | |  |  | | | | | **L** | | **T** | | **P** | **Total** | |  |
| **1** | | **HU801A** | A. OrganisationalBehaviour  B. Project Management | | | | | 2 | | 0 | | 0 | 2 | | 2 |
| **2** | | **EC801**  (No Lab) | A. Smart Antenna  B. Digital Image Processing  C. Satellite Communication & Remote Sensing | | | | | 3 | | 0 | | 0 | 3 | | 3 |
| **3** | | **EC802**  (No Lab) | A. Neural Network& Applications  B. Material Science& Engineering  C. Renewable Energy  D. Audio & Speech Processing  E. Mobile Computing | | | | | 3 | | 0 | | 0 | 3 | | 3 |
| **Total of Theory** | | | | | | | | | | | | | **8** | | **8** |
| **B. PRACTICAL** | | | | | | | | | | | | | | | |
| **4** | | **EC881** | | | Design Lab / Industrial problem  related practical training | 0 | | | | 0 | | 6 | | 6 | 4 |
| **5** | | **EC882** | | | Project-2 | 0 | | | | 0 | | 12 | | 12 | 6 |
| **6** | | **EC893** | | | Grand Viva |  | | | |  | |  | |  | 3 |
| **Total of Practical** | | | | | | | | | | | | | | **18** | **13** |
| **C. SESSIONAL** | | | | | | | | | | | | | | | |
| **7** | **GS881** | | | General Studies - VIII  Lab | | | 3 | | 1 | | 0 | | | 4 | 4 |
| **Total of Sessional** | | | | | | | | | | | | | | **4** | **4** |
| **Total of Semester** | | | | | | | | | | | | | | **30** | **25** |