

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

**Second Year Third Semester**

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| **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 CircuitsLab | 0 | 0 | 3 | 3 | 2 |
| **Total of Practical** | **14** | **9** |
| **C. SESSIONAL** |
| **12** | **GS381** | General Studies - IIILab | 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 EnvironmentalEngineering & ElementaryBiology | 3 | 0 | 0 | 3 | 3 |
| **3** | **EC401** | 1. EM Theory & TransmissionLines | 3 | 1 | 0 | 4 | 4 |
| **4** | **EC402** | 2. Digital Electronic &Integrated Circuits | 3 | 1 | 0 | 4 | 4 |
| **5** | **EC403** | Computer Organisation andArchitecture | 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 andArchitecture Lab | 0 | 0 | 3 | 3 | 2 |
| **Total of Practical** | **12** | **8** |
| **C. SESSIONAL** |
| **10** | **GS481** | General Studies - IVLab | 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 - VLab | 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 & PropagationInformation Theory & Coding | 3 | 0 | 0 | 3 | 3 |
| **6** | (With Lab)EC-605A EC-605B EC-605C | Operating SystemData 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 SystemData Base ManagementSystemsElectronic 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 - VILab | 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**(WithLab) | A. RF & Microwave Engineering.B. Optical Communication & N/W C. Computer NetworksD. FPGA & Reconfigurable Computing | 3 | 0 | 0 | 3 | 3 |
| **4** | **EC704**(No Lab) | A. Radar EnggB. Embedded SystemsC. Biomedical Instrumentation | 3 | 0 | 0 | 3 | 3 |
| **5** | **F. E.****EC705** | A. Artificial IntelligenceB. RoboticsC. Software EngineeringD. 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. LabB. Optical Communication & N/W LabC. Computer Networks LabD. FPGA & Reconfigurable Computing lab | 0 | 0 | 3 | 3 | 2 |
| **9** | **F.E****EC79****5** | A.Artificial Intelligence LabB.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 - VIILab | 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. OrganisationalBehaviourB. Project Management | 2 | 0 | 0 | 2 | 2 |
| **2** | **EC801**(No Lab) | A. Smart AntennaB. Digital Image ProcessingC. Satellite Communication & Remote Sensing | 3 | 0 | 0 | 3 | 3 |
| **3** | **EC802**(No Lab) | A. Neural Network& ApplicationsB. Material Science& EngineeringC. Renewable EnergyD. Audio & Speech ProcessingE. Mobile Computing | 3 | 0 | 0 | 3 | 3 |
| **Total of Theory** | **8** | **8** |
| **B. PRACTICAL** |
| **4** | **EC881** | Design Lab / Industrial problemrelated 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 - VIIILab | 3 | 1 | 0 | 4 | 4 |
| **Total of Sessional** | **4** | **4** |
| **Total of Semester** | **30** | **25** |