|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Course Code** | **Course Category** | **Subject Title** | **Periods per week** | **C** | **Scheme of ExaminationMaximum Marks** |
| **L** | **T** | **P** | **Int.** | **Ext.** | **Total** |
| **1** | **19199101** | **BSC** | **Mathematics-I** | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **2** | **19199102** | **HSMC** | **Communicative English-I** | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **3** | **19199103** | **BSC** | **Engineering Physics** | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **4** | **19195104** | **ESC** | **Problem Solving & Programming in C** | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **5** | **19193175** | **ESC** | **Engineering Graphics** | **1** | **0** | **3** | **2.5** | **30** | **70** | **100** |
| **6** | **19199196** | **MC** | **Environmental Studies** | **2** | **0** | **0** | **0** |  **30\*** | **-** | **-** |
| **7** | **19199111** | **HSMC** | **Communicative English Laboratory-I** | **0** | **0** | **3** | **1.5** | **50** | **50** | **100** |
| **8** | **19199112** | **BSC** | **Engineering Physics Laboratory** | **0** | **0** | **3** | **1.5** | **50** | **50** | **100** |
| **9** | **19195113** | **ESC** | **Problem Solving & Programming****Laboratory with C** | **0** | **0** | **3** | **1.5** | **50** | **50** | **100** |
| **TOTAL** | **15** | **0** | **12** | **19** | **300** | **500** | **800** |
| **BSC 7.5** | **HSMC****4.5** | **ESC****7** | **MC****0** |  |  |  |  |  |  |  |

**I YEARI SEMESTER**

**I YEAR II SEMESTER**

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| **Sl. No.** | **CourseCode** | **Course Category** | **Subject Title** | **Periods per week** | **C** | **Scheme of ExaminationMaximum Marks** |
| **L** | **T** | **P** | **Int.** | **Ext.** | **Total** |
| **1** | **19199201a** | **BSC** | **Mathematics-II**  | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **2** | **19199202** | **HSMC** | **Communicative English-II** | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **3** | **19199203** | **BSC** | **Applied Chemistry**  | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **4** | **19192204** | **ESC** | **Basic Electrical &Electronics Engineering**  | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **5** | **19195205** | **ESC** | **Python Programming**  | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **6** | **19199296b** | **MC** | **Professional Ethics &Human Values**  | **2** | **0** | **0** | **0** |  **30\*** | **-** | **-** |
| **7** | **19199211** | **HSMC** | **Communicative English Laboratory-II** | **0** | **0** | **3** | **1.5** | **50** | **50** | **100** |
| **8** | **19199212** | **ESC** | **Basic Electrical &Electronics Engineering Laboratory** | **0** | **0** | **3** | **1.5** | **50** | **50** | **100** |
| **9** | **19195213** | **ESC** | **Python Programming Laboratory** | **0** | **0** | **3** | **1.5** | **50** | **50** | **100** |
| **10** | **19199214** | **BSC** | **Engineering Chemistry Laboratory**  | **0** | **0** | **3** | **1.5** | **50** | **50** | **100** |
| **TOTAL** | **17** | **0** | **12** | **21** | **350** | **550** | **900** |
| **BSC 7.5** | **HSMC****4.5** | **ESC****9** | **MC****0** |  |  |  |  |  |  |  |

**II YEAR I SEMESTER**

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| **Sl. No.** | **Course Code** | **Course Category** | **Subject Title** | **Periods per week** | **C** | **Scheme of Examination****Maximum Marks** |
| **L** | **T** | **P** | **Int.** | **Ext.** | **Total** |
| **1** | **19149301** | **BSC** | **Complex Variables& Transform Techniques** | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **2** | **19142302** | **ESC** | **Network Analysis**  | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **3**  | **19140303** | **PCC** | **Electronic Devices &Circuits**  | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **4**  | **19140304** | **PCC** | **Switching Theory & Logic Design**  | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **5**  | **19140305** | **PCC** | **Signals and Systems**  | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **6**  | **19140306** | **PCC** | **Electromagnetic Waves & Transmission Lines**  | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **7**  | **19140387** | **MC** | **Design Thinking & Product Innovation** | **2** | **0** | **0** | **0** |  **30\*** | **-** | **-** |
| **8** | **19142311** | **ESC** | **Network Analysis Laboratory** | **0** | **0** | **3** | **1.5** | **50** | **50** | **100** |
| **9** | **19140312** | **PCC** | **Electronic Devices &Circuits Laboratory**  | **0** | **0** | **3** | **1.5** | **50** | **50** | **100** |
| **TOTAL** | **20** | **0** | **6** | **21** | **280** | **520** | **800** |
| **BSC****3** | **PCC****13.5** | **ESC****4.5** |  |  |  |  |  |  |  |  |

**II YEAR II SEMESTER**

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| **Sl. No.** | **Course****Code** | **Course Category** | **SubjectTitle** | **Periods per week** | **C** | **Scheme of Examination****Maximum Marks** |
| **L** | **T** | **P** | **Int.** | **Ext.** | **Total** |
| **1** | **19149401** | **BSC** | **Random variable and stochastic process** | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **2** | **19143462****19145462****1914246219144462****19141462****19147462****19146462** | **OEC** | **Open Elective-I*** **Robotics**
* **Fundamentals of Operating Systems**
* **Utilization of Electrical Energy**
* **Internet of Things**
* **Environmental Pollution & Control**
* **Basic Automobile Engineering**
* **Elements of Mining Technology**
 | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **3** | **19140403** | **PCC** | **Electronic Circuit Analysis**  | **3** | **0** | **0** | **3**  | **30** | **70** | **100** |
| **4** | **19140404** | **PCC** | **Analog Communications** | **3** | **0** | **0** | **3**  | **30** | **70** | **100** |
| **5** | **19140405** | **PCC** | **Pulse and Digital Circuits**  | **3** | **0** | **0** | **3**  | **30** | **70** | **100** |
| **6** | **19140411** | **PCC** | **Electronic Circuit Analysis Lab** | **0** | **0** | **3** | **1.5**  | **50** | **50** | **100** |
| **7** | **19140412** | **PCC** | **Pulse and Digital Circuits Lab** | **0** | **0** | **3** | **1.5**  | **50** | **50** | **100** |
| **8** | **19140413** | **PCC** | **Analog CommunicationLab** | **0** | **0** | **3** | **1.5**  | **50** | **50** | **100** |
| **9** | **19140421** | **PR** | **Community Service Oriented Project** | **0**  | **0** | **1** | **0.5**  | **100**  | **-**  | **100** |
| **TOTAL** | **15** | **0** | **10** | **20** | **400** | **500** | **900** |
| **BSC****3** | **PCC****13.5** | **PR****0.5** | **OEC****3**  |  |  |  |  |  |  |  |

**III YEAR I SEMESTER**

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| **Sl. No.** | **Course Code** | **Course Category** | **Subject Title** | **Periods per week** | **C** | **Scheme of ExaminationMaximum Marks** |
| **L** | **T** | **P** | **Int.** | **Ext.** | **Total** |
| **1** | **19149501** | **HSMC** | **Soft Skills** | **0** | **0** | **3** | **1.5** | **50** | **50** | **100** |
| **2** | **19143562****19145562****19142562****19144562****19141562****19147562****19146562** | **OEC** | **Open Elective-II*** **MEMS**
* **Information Security**
* **Energy Management**
* **Digital Image Processing**
* **Solid Waste Management**
* **Hybrid and Electrical Vehicles**
* **Disasters Management in Mining**
 | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **3** | **19140503** | **PCC** | **Linear & Digital IC Applications** | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **4** | **19140504** | **PCC** | **Digital Communication**  | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **5** | **19140505** | **PCC** | **Antenna and Wave Propagation**  | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **6**  | **19140566A****19140566B****19140566C****19140566D** | **PEC** | **Professional Elective-I*** **Electronic Measurement and Instrumentation**
* **Computer Architecture and Organization**
* **Information Theory and Coding**
* **Artificial Neural Networks and Fuzzy Logic**
 | **3** | **0** | **0** | **3** | **30** | **70** | **100** |

**III YEAR I SEMESTER**

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| --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Course Code** | **Course Category** | **Subject Title** | **Periods per week** | **C** | **Scheme of Examination Maximum Marks** |
| **L** | **T** | **P** |  | **Int.** | **Ext.** | **Total** |
| **7** | **19149507** | **MC** | **Constitution of India** | **2** | **0** | **0** | **0** |  **30\*** | **-** | **-** |
| **8** | **19140511** | **PCC** | **Linear IC Applications Laboratory** | **0** | **0** | **3** | **1.5** | **50** | **50** | **100** |
| **9** | **19140512** | **PCC** | **DSD& Digital IC Applications Laboratory** | **0** | **0** | **3** | **1.5** | **50** | **50** | **100** |
| **10** | **19140513** | **PCC** | **Digital Communications Laboratory** | **0** | **0** | **3** | **1.5** | **50** | **50** | **100** |
| **11** | **19140521/****19140581** | **PR** | **Mini Project – 1/Study Project/Internship** | **0** | **0** | **0** | **2** | **100** | **-** | **100** |
| **TOTAL** | **17** | **0** | **12** | **23** | **450** | **550** | **1000** |
| **OEC****3** | **PCC****13.5** | **PR****2** | **HSMC****1.5** | **PEC****3** |  |  |  |  |  |  |  |

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**III YEAR II SEMESTER**

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| **Sl. No.** | **Course****Code** | **Course Category** | **Subject Title** | **Periods per week** | **C** | **Scheme of Examination****Maximum Marks** |
| **L** | **T** | **P** | **Int.** | **Ext.** | **Total** |
| **1** |  | **OEC** | **Open Elective - III** | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **19143661** | * **Nano Technology**
 |
| **19145661** | * **Human Computer Interaction**
 |
| **19142661** | * **Renewable Energy Resources**
 |
| **19144661** | * **Data Communication**
 |
| **19141661** | * **Global Environment:**

**Problems &Policies** |
| **19147661** | * **Modern Vehicle Technology**
 |
| **19146661** | * **Remote Sensing & GIS in Mining**
 |
| **2** | **19144602** | **PCC** | **Computer Networks** | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **3** | **19144603** | **PCC** | **Microprocessors and Microcontrollers** | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **4** | **19144604** | **PCC** | **Digital Signal Processing** | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **5** | **19144605** | **PCC** | **Microwave Engineering** | **3** | **0** | **0** | **3** | **30** | **70** | **100** |

**III YEAR II SEMESTER**

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| --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Course****Code** | **Course Category** | **Subject Title** | **Periods per week** | **C** | **Scheme of Examination****Maximum Marks** |
| **L** | **T** | **P** | **Int.** | **Ext.** | **Total** |
| **6** | **19140665A****19140665B****19140665C****19140665D** | **PEC** | **Professional Elective - II*** **Wireless and Mobile Communication**
* **Digital System Design Using Verilog**
* **Control Systems**
* **Telecommunication Switching Systems and Networks**
 | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **7** | **19140611** | **PCC** | **Digital Signal Processing****Laboratory** | **0** | **0** | **3** | **1.5** | **50** | **50** | **100** |
| **8** | **19140612** | **PCC** | **Microprocessors and Microcontrollers****Laboratory** | **0** | **0** | **3** | **1.5** | **50** | **50** | **100** |
| **TOTAL** | **18** | **0** | **6** | **21** | **280** | **520** | **800** |
| **OEC****3** | **PCC****15** | **PEC****3** |  |  |  |  |  |  |  |  |

**IV YEAR I SEMESTER**

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| --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Course Code** | **Course Category** | **Subject Title** | **Periods per week** | **C** | **Scheme of Examination****Maximum Marks** |
| **L** | **T** | **P** | **Int.** | **Ext.** | **Total** |
| **1** | **19149701a****19149701b****19149701c****19149701d****19149701e****19149701f****19149701g****19149701h****19149701i** | **OEC** | **Open Elective - IV*** **MEFA**
* **Entrepreneurship Qualities for Engineers**
* **Principles of Management**
* **Financial Management for Engineers**
* **Operation Management**
* **Digital Marketing**
* **Total Quality Management**
* **Organizational Behavior**
* **Human Resource Management**
 | **3** | **0** | **0** | **3** | **30** | **70** | **100** |
| **2** | **19140702** | **PCC** | **VLSI Design** | **3** | **0** | **0** | **3**  | **30** | **70** | **100** |
| **3** | **19140703** | **PCC** | **Optical Communication**  | **3** | **0** | **0** | **3**  | **30** | **70** | **100** |
| **4** | **19140704** | **PCC** | **Digital Image Processing**  | **3** | **0** | **0** | **3**  | **30** | **70** | **100** |
| **5** | **19149795** | **MC** | **Intellectual Property Rights and Patents** | **2**  | **0** | **0** | **0**  |  **30\***  | **-**  | **-**  |

**IV YEAR I SEMESTER**

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| --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Course Code** | **Course Category** | **Subject Title** | **Periods per week** | **C** | **Scheme of Examination****Maximum Marks** |
| **L** | **T** | **P** | **Int.** | **Ext.** | **Total** |
| **6** | **19140706A****19140706B****19140706C****19140706D** | **PEC** | **Professional Elective - III*** **Bio Medical Instrumentation**
* **Embedded System Design**
* **Digital Signal Processors and Architecture**
* **Wireless Sensor Networks**
 | **3** | **0** | **0** | **3**  | **30** | **70** | **100** |
| **7** | **19140711** | **PCC** | **Microwave Engineering and Optical Communication Laboratory**  | **0** | **0** | **3** | **1.5**  | **50** | **50** | **100** |
| **8** | **19140712** | **PCC** | **VLSI Laboratory**  | **0** | **0** | **3** | **1.5**  | **50** | **50** | **100** |
| **9**  | **19140721/****19140781** | **PR**  | **Mini Project – 2/Internship** | **0** | **0** | **0** | **2** | **100**  | **-**  | **100**  |
| **TOTAL** | **17** | **0** | **6** | **20** | **350** | **450** | **800** |
| **OEC 3** | **PCC****12** | **PR****2** | **PEC****3**  |  |  |  |  |  |  |  |

**IV YEAR II SEMESTER**

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| --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Course****Code** | **Course Category** | **Subject Title** | **Periods per week** | **C** | **Scheme of Examination****Maximum Marks** |
| **L** | **T** | **P** | **Int.** | **Ext.** | **Total** |
| **1** | **19140801A****19140801B****19140801C****19140801D** | **PEC** | **Professional Elective - IV*** **EMI & EMC**
* **Digital IC Design**
* **Speech Processing**
* **Network Security and Cryptography**
 | **3** | **0** | **0** | **3**  | **30** | **70** | **100** |
| **2** | **19140802A****19140802B****19140802C****19140802D** | **PEC** | **Professional Elective - V*** **Radar System Engineering**
* **Low Power VLSI Design**
* **Multimedia Communication**
* **Internet of Things**
 | **3** | **0** | **0** | **3**  | **30** | **70** | **100** |
| **3** | **19140841** | **PR** | **Project** | **0** | **0** | **18** | **9**  | **80**  | **120**  | **200**  |
|  **TOTAL** | **6** | **0** | **18** | **15** | **140** | **260** | **400** |

**PROFESSIONAL ELECTIVES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Professional Electives** | **Communication** | **VLSI & Embedded Systems** | **Signal Processing** | **Networking** |
| **Elective - I** | **Electronic Measurement and Instrumentation** | **Computer Architecture & Organization** | **Information theory and Coding** | **Artificial Neural Networks and Fuzzy Logic** |
| **Elective - II** | **Wireless and Mobile Communication** | **Digital system design using Verilog** | **Control Systems** | **Telecommunication Switching Systems and Networks** |
| **Elective - III** | **Bio Medical Instrumentation** | **Embedded System Design** | **Digital Signal Processors and Architecture** | **Wireless SensorNetworks** |
| **Elective - IV** | **EMI & EMC** | **Digital IC Design** | **Speech Processing** | **Network Security and Cryptography** |
| **Elective - V** | **Radar system Engineering** | **Low Power VLSI Design** | **Multimedia Communication** | **Internet of Things** |

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| **OPEN ELECTIVE-I** |  **OPEN ELECTIVE-II** | **OPEN ELECTIVE-III** | **OPEN ELECTIVE-IV** |
| **Mech:****Robotics**  | **Mech:****MEMS**  | **Mech:****Nano Technology**  | **MEFA**  |
| **CSE:** **Operating Systems**  | **CSE:****Information Security**  | **CSE:****Human Computer Interaction**  | **Entrepreneurship Qualities for Engineers**  |
| **EEE:****Utilization of Electrical Energy**  | **EEE:****Energy Management**  | **EEE:****Renewable Energy Resources**  | **Principles of Management**  |
| **ECE:****Internet of Things**  | **ECE:****Digital Image Processing**  | **ECE:****Data Communication**  | **Financial Management for Engineers**  |
| **CE:****Environmental Pollution & Control**  | **CE:****Solid Waste Management**  | **CE:****Global Environment: Problems & Policies**  | **Operations management**  |
| **AME:****Basic Automobile Engineering**  | **AME:****Hybrid and Electric Vehicles**  | **AME:****Modern Vehicle Technology**  | **Digital Marketing**  |
| **Mining:****Elements of Mining Technology**  | **Mining:****Disaster Management in Mining**  | **Mining:****Remote Sensing & GIS in Mining**  | **Total Quality Management**  |
|  |  |  | **Organizational Behavior**  |
|  |  |  | **Human Resource Management** |

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| **CATEGORY** | **ECE DEPARTMENT ALLOCATED CREDITS** | **AICTE** | **APSCHE** |
| BSC | 21 | 25 | 24 |
| HSMC | 10.5 | 12 | 13 |
| PCC | 67.5 | 48 | 59 |
| ESC | 20.5 | 24 | 24 |
| MC | 0 | 0 | 0 |
| OEC | 12 | 18 | 12 |
| PEC | 15 | 18 | 12 |
| PR | 13.5 | 15 | 13 |
| LC | - | - | 03 |
|  | 160 | 160 | 160 |