## Credit Definition

|  |  |  |
| --- | --- | --- |
| **Type** | **(DinurHatoiuorn)** | **Credit** |
| Lecture (L) | 1 | 1 |
| Tutorial (T) | 1 | 1 |
| Practical (P) | 2 | 1 |

**Total Credit**

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **Semester** | **Hrs/week** | **Credit** |
| 1st | 1 | 30 | 24 |
| 2 | 29 | 23 |
| 2nd | 3 | 30 | 24 |
| 4 | 30 | 25 |
| 3rd | 5 | 26 | 22 |
| 6 | 27 | 23 |
| 4th | 7 | 22 | 21 |
| 8 | 17 | 16 |
| **Total** | **178** |

**Category Codification with Credit Break up**

|  |  |  |  |
| --- | --- | --- | --- |
| **Definition of Category** | **Code** | **No** | **Credit** |
| Basic Science | BS | 1 | 26 |
| Engineering Science | ES | 2 | 23 |
| Professional Core | PC | 3 | 47 |
| Professional Elective (Discipline Specific) | PE | 4 | 21 |
| Open Elective (General Elective) | OE | 5 | 12 |
| Humanities & Social Science including Management | HSM | 6 | 9 |
| Project Work / Seminar / Internship / Entrepreneurship | PSE | 7 | 22 |
| Mandatory / University Specified (Environmental Sc. / Induction Training / Indian Constitution / Foreign Language) | MUS | 8 | 18 |
|  | 178 |

**Category wise Credit Distribution**

**Subject Codification**

Category

Semester

Course

X

X

1 – L/L+T, 2 – L+P, 3 – Sessional, 4 – P/Workshop

If “Type” = 3, then 1 – Seminar, 2 – project, 3 – Internship/ Entrepreneurship, 4 - Viva

X

X

X

X

X

Type

Degree

Department Code

1 – BS, 2 – ES, 3 – PC, 4 – PE, 5 – OE, 6 –

 HSM, 7 – PSE, 8 – MUS

1 – B.Tech (CSE), 2 – M.Tech (CSE), 3 – B.Tech (CSBS), 4 – Diploma, 5 – PhD

**SEMESTER: I**

**Mandatory Induction Program – Duration 3 weeks**

* Physical Activity
* Creative Arts
* Universal Human Values
* Literary
* Proficiency Modules
* Lectures by Eminent People
* Visits to Local Areas
* Familiarization to Department/Branch & Innovations

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl No.**  | **Course Title** | **Code** | **Credit** | **Type** |
| **L** | **T** | **P** |
| 1 | Engineering Mathematics – I | 1191111 | 3 | 3 | 0 | 0 |
| 2 | Engineering Physics | 1171112 | 3 | 3 | 0 | 0 |
| 3 | Engineering Drawing | 1102111 | 2 | 2 | 0 | 0 |
| 4 | Fundamentals of Computer Sc. & Problem-Solving using C | 1112112 | 3 | 3 | 0 | 0 |
| 5 | Principles of Electrical Engineering | 1132113 | 3 | 3 | 0 | 0 |
| 6 | Communicative English - I | 1216111 | 2 | 2 | 0 | 0 |
| 7 | Environmental Science | 1158111 | 2 | 2 | 0 | 0 |
| 8 | Engineering Physics Lab | 1171212 | 1 | 0 | 0 | 2 |
| 9 | Engineering Drawing Lab | 1102211 | 1 | 0 | 0 | 2 |
| 10 | Fundamentals of Computer Sc. & Problem-Solving Lab | 1112212 | 2 | 0 | 0 | 4 |
| 11 | Foreign Language - I  | 1278111 | 2 | 2 | 0 | 0 |
| Total Credit (BS: 08, ES: 10, HSM: 04, MUS: 02) | 24 | 28 hrs/ week |

**SEMESTER: II**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl No.**  | **Course Title** | **Code** | **Credit** | **Type** |
| **L** | **T** | **P** |
| 1 | Engineering Mathematics – II | 1191121 | 3 | 3 | 0 | 0 |
| 2 | Engineering Chemistry | 1161122 | 3 | 3 | 0 | 0 |
| 3 | Principles of Computer Programming | 1112122 | 4 | 4 | 0 | 0 |
| 4 | Basic Electronics | 1122123 | 3 | 3 | 0 | 0 |
| 5 | Biology for Engineers | 1151123 | 2 | 2 | 0 | 0 |
| 6 | Communicative English - II | 1216121 | 2 | 2 | 0 | 0 |
| 7 | Engineering Chemistry Lab | 1161222 | 1 | 1 | 0 | 0 |
| 8 | Introduction to Manufacturing Processes Lab | 1102221 | 2 | 0 | 0 | 4 |
| 9 | Principles of Computer Programming Lab | 1112222 | 2 | 0 | 0 | 4 |
| 10 | Basic Electronics Lab | 1122223 | 1 | 0 | 0 | 2 |
| 11 | Foreign Language - II | 1278121 | 2 | 2 | 0 | 0 |
| Total Credit (BS: 08, ES: 14, HSM: 01, MUS: 02) | 25 | 30 hrs/ week |

**SEMESTER: III**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl No.**  | **Course Title** | **Code** | **Credit** | **Type** |
| **L** | **T** | **P** |
| 1 | Numerical Methods | 1191131 | 3 | 3 | 0 | 0 |
| 2 | Control system | 1133231 | 3 | 3 | 0 | 0 |
| 3 | Strength of Materials | 1403231 | 2 | 2 | 0 | 0 |
| 4 | Applied thermal Engg | 1103131 | 2 | 2 | 0 | 0 |
| 5 | Computer Aided design & Manufacturing | 1103132 | 3 | 3 | 0 | 0 |
| 6 | System Embedded programming with Java | 1393131 | 2 | 2 | 0 | 0 |
| 7 | Control System Lab using MATLAB | 1133232 | 1 | 0 | 0 | 2 |
| 8 | System Embedded programming with Java Lab (IBM) | 1393431 | 1 | 0 | 0 | 2 |
| 9 | CAD/CAM Lab | 1103232 | 1 | 0 | 0 | 2 |
| 10 | Applied Thermal Engg Lab | 1103231 | 1 | 0 | 0 | 2 |
| 11 | Strength of material Lab | 1403232 | 1 | 0 | 0 | 2 |
| 12 | Foreign Language - III | 1278131 | 2 | 2 | 0 | 0 |
| Total Credit (ES: 03, PC: 17, MUS: 02) | 22 | 27 hrs/ week |

**SEMESTER: IV**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl No.**  | **Course Title** | **Code** | **Credit** | **Type** |
| **L** | **T** | **P** |
| 1 | Kinematics & Dynamics of Robots | 1393141 | 3 | 3 | 0 | 0 |
| 2 | Process Control & Automation | 1133241 | 3 | 3 | 0 | 0 |
| 3 | Robot Sensors | 1393242 | 3 | 3 | 0 | 0 |
| 4 | Microprocessor & Microcontrollers | 1123143 | 3 | 3 | 0 | 0 |
| 5 | Automation Lab/PLC Lab | 1133242 | 1 | 0 | 0 | 2 |
| 6 | Sensors | 1393243 | 1 | 0 | 0 | 2 |
| 7 | Microprocessor & Microcontrollers | 1123343 | 1 | 0 | 0 | 2 |
| 8 | Introduction to Roboanalyzer | 1393441 | 1 | 0 | 0 | 2 |
| 9 | REST API+ Node JS (IBM) | 1393442 | 1 | 0 | 0 | 2 |
| 10 | Mini Project-I (CAD/CAM based) | 1107341 | 1 | 0 | 0 | 0 |
| 11 | Foreign Language - IV | 1278141 | 2 | 2 | 0 | 0 |
| Total Credit (PC: 17, PSE: 01, MUS: 02) | 20 | 24 hrs/ week |

**SEMESTER: V**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl No.**  | **Course Title** | **Code** | **Credit** | **Type** |
| **L** | **T** | **P** |
| 1 | AI and its application in Robotics | 1393151 | 3 | 3 | 0 | 0 |
| 2 | Drives for Robots | 1393152 | 3 | 3 | 0 | 0 |
| 3 | Robot Vision and Image Processing | 1393153 | 3 | 3 | 0 | 0 |
| 4 | Simulation, Modelling & Analysis | 1393154 | 3 | 3 | 0 | 0 |
| 5 | Planning Techniques for Robots | 1393155 | 3 | 3 | 0 | 0 |
| 6 | AI for Robots (IBM) | 1393451 | 1 | 0 | 0 | 2 |
| 7 | Drives Lab | 1393452 | 1 | 0 | 0 | 2 |
| 8 | Robot Vision & Image Processing lab | 1393453 | 1 | 0 | 0 | 2 |
| 9 | Simulation Lab | 1393454 | 1 | 0 | 0 | 2 |
| 10 | Mini Project-II(CAD/CAM based) | 1107351 | 1 | 0 | 0 | 0 |
| 11 | Technical Seminar-I | 1397351 | 1 | 0 | 0 | 0 |
| Total Credit (PC: 19, PSE: 02) | 21 | 23 hrs/ week |

**SEMESTER: VI**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl No.**  | **Course Title** | **Code** | **Credit** | **Type** |
| **L** | **T** | **P** |
| 1 | Machine Learning & application in Robotics | 1393161 | 3 | 3 | 0 | 0 |
| 2 | Wireless Network | 1124162 | 3 | 3 | 0 | 0 |
| 3 | Industrial /Process Automation & Management | 1393162 | 3 | 3 | 0 | 0 |
| 4 | Computer Integrated Manufacturing | 1103161 | 3 | 3 | 0 | 0 |
| 5 | Neural Network & Fuzzy System | 1393163 | 3 | 3 | 0 | 0 |
| 6 | Machine Learning (IBM) | 1393461 | 2 | 0 | 0 | 4 |
| 7 | Wireless Network Lab | 1124462 | 1 | 0 | 0 | 2 |
| 8 | Computer Integrated Manufacturing Lab | 1103461 | 1 | 0 | 0 | 2 |
| 9 | Robotics Process Automation Lab | 1393462 | 1 | 0 | 0 | 2 |
| 10 | Technical Seminar-II | 1397361 | 1 | 0 | 0 | 0 |
| Total Credit (PC: 20, PSE: 01) | 21 | 25 hrs/ week |

**SEMESTER: VII**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl No.**  | **Course Title** | **Code** | **Credit** | **Type** |
| **L** | **T** | **P** |
| 1 | Robot Economics | 1393171 | 2 | 2 | 0 | 0 |
| 2 | Optimization in Engineering Design | 1393172 | 2 | 2 | 0 | 0 |
| 3 | Mechatronics-I | 1103171 | 2 | 2 | 0 | 0 |
| 4 | Virtual Instrumentation | 1393173 | 2 | 2 | 0 | 0 |
| 5 | Manipulator, Estimation & Control | 1393174 | 3 | 3 | 0 | 0 |
| 6 | Predictive Analytics (IBM) | 1393471 | 1 | 0 | 0 | 2 |
| 7 | Manipulator, Estimation & Control Lab | 1393474 | 2 | 0 | 0 | 4 |
| 8 | Virtual Instrumentation Lab | 1393473 | 1 | 0 | 0 | 2 |
| 9 | Project-I | 1397371 | 3 | 0 | 0 | 0 |
| 10 | Summer Training | 1127371 | 1 | 0 | 0 | 0 |
| Total Credit (PC: 15, PSE: 04) | 19 | 19 hrs/ week |

**SEMESTER: VIII**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl No.**  | **Course Title** | **Code** | **Credit** | **Type** |
| **L** | **T** | **P** |
| 1 | Modern Material Handling System | 1393181 | 3 | 3 | 0 | 0 |
| 2 | Mechatronics-II | 1103181 | 3 | 3 | 0 | 0 |
| Fluid power & Control | 1403181 | 3 | 3 | 0 | 0 |
| 3 | Values & Ethics | 1213181 | 1 | 1 | 0 | 0 |
| 4 | Humanoids | 1393182 | 3 | 3 | 0 | 0 |
| 5 | Microservices (IBM) | 1393481 | 1 | 0 | 0 | 2 |
| 6 | Project-II | 1397381 | 4 | 0 | 0 | 0 |
| 7 | Business Intelligence (IBM) | 1393482 | 1 | 0 | 0 | 2 |
| 8 | Grand Viva | 1397382 | 2 | 0 | 0 | 0 |
| Total Credit (PC: 14, HSM: 01, PSE: 06) | 21 | 17 hrs/ week |