**Structure of pattern B14 Revised for Third Year .Mechanical Engineering (2017-18 )**

**Academic Year – 2017-18**

**Module –V**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Course | Course Code | Course Name | Course | Contact Hours / Week | | | Assessment Scheme | | | | | | Total Marks | Credits |
| Type | ISA | | | ISA | MSE | ESE |
|  | Breakup | | |
|  | Th. | Project based Lab | Regular Lab | CA | MSA | ESA |
| S1 | ME301THL | Internal Combustion Engine | THL | 3 | - | 2 | 30 | 20 | 50 | 30 | 35 | 35 | 100 | 4 |
| S2 | ME302THP | Mechanical Design\* | THP | 3 | 2 | - | 30 | 20 | 50 | 30 | 35 | 35 | 100 | 4 |
| S3 | ME303THL | Fluid Machinery and Fluid Power | THL | 3 | - | 2 | 30 | 20 | 50 | 30 | 35 | 35 | 100 | 4 |
| S4 | ME304THP | Mechatronics | THP | 3 | 2 | - | 30 | 20 | 50 | 30 | 35 | 35 | 100 | 4 |
| S5 | ME305TH | Production Metallurgy | TH | 3 | - | - | 30 | 20 | 50 | 30 | 35 | 35 | 100 | 3 |
| S6 |  | Employability and skill development\* | OPE | 2 | - | - | - | - | - | 10 | 20 | 70 | 100 | 2 |
| S7 | ME306LAB | Measurement & Quality Control | LAB | - | - | 2 | 30 | 20 | 50 | 100 | - | - | 100 | 2 |
| TOTAL | | | | 17 | 4 | 6 |  |  |  |  |  |  |  | 23 |

**\* S2 -Mechanical Design - Irrespective of module in FIRST semester**

**\* S6- Employability and skill development- Irrespective of module in FIRST semester**

**Structure for T.Y. Mechanical Engineering**

**Academic Year – 2017-18**

**Module –VI**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Course | Course Code | Course Name | Course | Contact Hours / Week | | | Assessment Scheme | | | | | | Total Marks | Credits |
| Type | ISA | | | ISA | MSE | ESE |
|  | Breakup | | |
|  | Th. | Project based Lab | Regular Lab | CA | MSA | ESA |
| S1 | ME307THP | Design of Machine Elements\* | THP | 3 | 2 | - | 30 | 20 | 50 | 30 | 35 | 35 | 100 | 4 |
| S2 | ME308THL | Theory of Machines | THL | 3 | - | 2 | 30 | 20 | 50 | 30 | 35 | 35 | 100 | 4 |
| S3 | ME309THP | Computational Methods in Mechanical Engineering | THP | 3 | 2 | - | 30 | 20 | 50 | 30 | 35 | 35 | 100 | 4 |
| S4 | ME310THL | Heat Transfer | THL | 3 | - | 2 | 30 | 20 | 50 | 30 | 35 | 35 | 100 | 4 |
| S5 | ME311TH | Production Technology | TH | 3 | - | - | 30 | 20 | 50 | 30 | 35 | 35 | 100 | 3 |
| S6 |  | Project Management \* | OPE | 2 | - | - | - | - | - | 10 | 20 | 70 | 100 | 2 |
| S7 | ME312PS | Mini Project | PRJ | - | - | 2 | 30 | 20 | 50 | 100 | - | - | 100 | 2 |
| TOTAL | | | | 17 | 4 | 6 |  |  |  |  |  |  |  | 23 |

**\* S1 - Design of Machine Elements- Irrespective of module in SECOND semester**

**\* S6- Project Management Irrespective of module in SECOND semester**

**Structure for B.TECH. Mechanical Engineering**

**Academic Year – 2018-19**

**Module -VII**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Course | Course Code | Course Name | Course | Contact Hours / Week | | | Assessment Scheme | | | | | | Total Marks | Credits |
| Type | ISA | | | ISA | MSE | ESE |
|  | Breakup | | |
|  | Theory | Project based Lab | Regular Lab | CA | MSA | ESA |
| S1 | ME401THP | CAD/CAM/CAE | THP | 3 | 2 |  | 30 | 20 | 50 | 30 | 35 | 35 | 100 | 4 |
| S2 | ME402THP | Design of Mechanical Systems | THP | 3 | 2 |  | 30 | 20 | 50 | 30 | 35 | 35 | 100 | 4 |
| S3 | ME403THL | Vibration Analysis | THL | 3 |  | 2 | 30 | 20 | 50 | 30 | 35 | 35 | 100 | 4 |
| S4 | ME404THL | Refrigeration and Air Conditioning | THL | 3 |  | 2 | 30 | 20 | 50 | 30 | 35 | 35 | 100 | 4 |
| S5 | ME405PRJ | Project work | PRJ |  | 10 |  | 30 | 20 | 50 | 100 | - | - | 100 | 5 |
| TOTAL | | | | 12 | 14 | 4 |  |  |  |  |  |  |  | 21 |

**Structure for B.TECH. Mechanical Engineering**

**Academic Year – 2018-19**

**Module-VIII**

**Option-A (six months internship based)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Course | Course Code | Course Name | Course | Contact Hours / Week | | | Assessment Scheme | | | | | | Total Marks | Credits |
| Type | ISA | | | ISA | MSE | ESE |
|  | Breakup | | |
|  | Th. | Project based Lab | Regular Lab | CA | MSA | ESA |
| S1 | -- | Elective | OPE |  |  |  |  |  |  |  | - | 100 | 100 | 3 |
| S2 | ME406INT | Industrial In-Plant Training | INT |  |  |  |  |  |  |  | - | 100 | 100 | 8 |
| S3 | ME408CVV | CVV | CVV |  |  |  |  |  |  |  |  | 100 | 100 | 4 |
| TOTAL | | | | - | - | - |  |  |  |  |  |  |  | 15 |

**S1 - Open elective selected as per recommendation of company**

**S3 - CVV based on S1 & S2 (Report, presentation and Viva)**

**Structure for B.TECH. Mechanical Engineering**

**Academic Year – 2018-19**

**Module-VIII**

**Option-B (3 Elective & Project based)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Course | Course Code | Course Name | Course  Type | Contact Hours / Week | | | Assessment Scheme | | | | | | Total Marks | Credits |
| ISA  Breakup | | | ISA | MSE | ESE |
| Th. | Project based Lab | Regular Lab | CA | MSA | ESA |
| S1 | - | Elective -I | TH | 3 | - | - | 30 | 20 | 50 | 30 | 35 | 35 | 100 | 3 |
| S2 | - | Elective -II | TH | 3 | - | - | 30 | 20 | 50 | 30 | 35 | 35 | 100 | 3 |
| S3 | - | Elective -III | TH | 3 | - | - | 30 | 20 | 50 | 30 | 35 | 35 | 100 | 3 |
| S4 | ME406PRJ | Project work | PRJ | - | 8 | - | 30 | 20 | 50 | 100 | - | - | 100 | 4 |
| S5 | ME410PS | Seminar | SEM | - | 4 | - | 30 | 20 | 50 | 100 | - | - | 100 | 2 |
| TOTAL | | | | 9 | 12 | - |  |  |  |  |  |  |  | 15 |

**Structure for B.TECH. Mechanical Engineering**

**Academic Year – 2018-19**

**Module-VIII**

**Option-C (Research Project based)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Course | Course Code | Course Name | Course  Type | Contact Hours / Week | | | Assessment Scheme | | | | | | Total Marks | Credits |
| ISA  Breakup | | | ISA | CT | ESE |
| Th. | Project based Lab | Regular Lab | CA | MSA | ESA |
| S1 | -- | Open Elective | TH | 3 | - | - | 30 | 20 | 50 | 30 | 35 | 35 | 100 | 3 |
| S2 | ME407PRJ | Project work | PRJ | - | 16 | - | 30 | 20 | 50 | 100 | - | - | 100 | 8 |
| S3 | ME409CVV | CVV | OR | - | - | - | - | - | - | - | - | 100 | 100 | 4 |
| TOTAL | | | | 3 | 16 | - |  |  |  |  |  |  |  | 15 |

**S1 - Open elective selected as per recommendation by PI/CI**

**S3 - CVV based on S1 & S2 (Report, presentation and Viva)**

**Structure for B.TECH. Mechanical Engineering**

**Academic Year – 2018-19**

**Module-VIII**

**Option-D (Global Internship)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Course | Course Code | Course Name | Course  Type | Contact Hours / Week | | | Assessment Scheme | | | | | | Total Marks | Credits |
| ISA  Breakup | | | ISA | MSE | ESE |
| Th. | Project based Lab | Regular Lab | CA | MSA | ESA |
| S1 | ME401GIP | Global Internship Program (six months) | GIP |  |  |  |  |  |  |  | - |  |  | 15 |
| TOTAL | | | | - | - | - |  |  |  |  |  |  |  | 15 |

Electives (2018-19)

|  |  |  |
| --- | --- | --- |
| Elective -I | ME422TH | Tribology |
| ME423TH | Dynamic -Kinemetics |
| ME424TH | Heat Exchange Devices |
| ME425TH | Non Conventional Energy Sources |
| Elective -II | ME426TH | Power Plant Engineering |
| ME427TH | Turbomachines |
| ME428TH | Industrial Fluid Power |
| ME429TH | Hybrid Electric Vehicles- Performance & Environment Impact |
| Elective -III | ME430TH | Robotics |
| ME431TH | Finite Element Method |
| ME432TH | Optimization Techniques & Operation Research |
| ME433TH | Automobile Engineering |