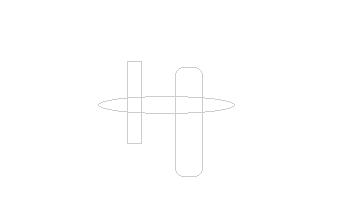
**M.Tech Design Engineering Pattern A-13 wef 2013-14**

Department of Mechanical Engineering

**STRUCTURE – SEMESTER I**



|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Subject | Subject Name | Type | Teaching scheme | |  | Assessment scheme | | |  | Credits | |
| Code |  |  | (Hrs./week) | |  | ISA# | | | ESA | | |
|  |  |  |  |  |  |  |  |  |  |  | |
|  |  |  | Lect. | Practical | CT\* | MSE | HA | CA | ESE | | |
|  |  |  |  |  |  |  |  |  |  |  | |
| **Semester –I** | |  |  |  |  |  |  |  |  | |  |
| ME50101 | Mathematical Methods in Mech. | Theory | 3 | - | 10 | 30 | 10 | - | 50 | | 3 |
|  | Engg. |  |  |  |  |  |  |  |  | |  |
| ME50102 | Advanced Stress Analysis | Theory | 3 | - | 10 | 30 | 10 | - | 50 | | 3 |
| ME50103 | Vibration and Noise Control | Theory | 3 | - | 10 | 30 | 10 | - | 50 | | 3 |
| **Elective I** |  | Theory | 3 | - | 10 | 30 | 10 | - | 50 | | 3 |
| ME52101 | Reliability Engineering |  |  |  |  |  |  |  |  | |  |
| ME52102 | Advanced Manufacturing Methods |  |  |  |  |  |  |  |  | |  |
| ME50107 | Thermofluids-I |  |  |  |  |  |  |  |  | |  |
|  |  |  |  |  |  |  |  |  |  | |  |
| **Elective II** |  | Theory | 3 | - | 10 | 30 | 10 | - | 50 | | 3 |
| ME52103 | Analysis and Synthesis of |  |  |  |  |  |  |  |  | |  |
|  | Mechanisms |  |  |  |  |  |  |  |  | |  |
| ME52104 | Process Equipment Design |  |  |  |  |  |  |  |  | |  |
| ME52105 | Industrial Tribology |  |  |  |  |  |  |  |  | |  |
|  |  |  |  |  |  |  |  |  |  | |  |
| ME50301 | Design Engg. Lab-I | Lab | - | 4 | - | - | - | 100 | - | | 4 |
| HS56301 | Communication & Soft Skill | Lab | - | 2 | - | - | - | - | 100 | | 2 |
| ME50401 | CVV-I | Oral | - | - | - | - | - | - | 100 | | 2 |
|  |  |  |  |  |  |  |  |  |  | |  |
| ME57702 | Semester Project-I | Project | - | 6 | - | - | - | - | 100 | | 2 |
|  |  |  |  |  |  |  |  |  |  | |  |
|  | **Total** |  | **15** | **12** |  |  |  |  |  | | **25** |
|  |  |  |  |  |  |  |  |  |  | |  |



* CT (Unit 1) 1 hour 30 marks converted to 10 marks + HA (minimum 3) – Total 30 marks converted to 10 marks = 20 marks

MSE – 2 hours 60 marks converted to 30 marks (Unit 2 & 3), ESE – 3 hours 100 marks converted to 50 marks (Unit 1 to 6)

* ISA – In Semester Assessment, ESA – End Semester Assessment, CT- Class Test,

MSE – Mid Semester Examination, HA- Home Assignment, CA – Continuous Assessment, ESE – End Semester Examination

Department of Mechanical Engineering

**STRUCTURE – SEMESTER II**

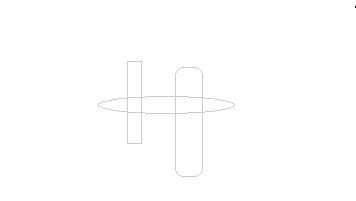


|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Subject | Subject Name | Type | Teaching scheme | |  | Assessment scheme | | |  | Credits |
| Code |  |  | (Hrs./week) | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | ISA# | | | ESA |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Lect. | Practical | CT\* | MSE | HA | CA | ESE |  |
|  |  |  |  |  |  |  |  |  |  |  |

**Semester –II**



|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ME50104 |  | Project Economics and Management | Theory | 3 | - | 10 | 30 | 10 | - | 50 | 3 |
| ME50105 |  | Advanced Machine Design | Theory | 3 | - | 10 | 30 | 10 | - | 50 | 3 |
| ME50106 |  | Computer Aided Engineering | Theory | 3 | - | 10 | 30 | 10 | - | 50 | 3 |
| **Elective III** | |  | Theory | 3 | - | 10 | 30 | 10 | - | 50 | 3 |
| ME50109 | Advanced Measurement and Data | |  |  |  |  |  |  |  |  |  |
|  |  | Analysis |  |  |  |  |  |  |  |  |  |
| ME52106 | Mechanics of Composite Materials | |  |  |  |  |  |  |  |  |  |
| ME52107 |  | Optimization Technique |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| **Elective IV** | |  | Theory | 3 | - | 10 | 30 | 10 | - | 50 | 3 |
| ME52108 |  | Vehicle Dynamics |  |  |  |  |  |  |  |  |  |
| ME52109 |  | Robotics |  |  |  |  |  |  |  |  |  |
|  |  | |  |  |  |  |  |  |  |  |  |
| ME50111 | Design of Heat Exchangers | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| ME50302 |  | Design Engg. Lab-II | Lab | - | 4 | - | - | - | 100 | - | 4 |
| ME57701 |  | Technical Seminar-I | Lab | - | 2 | - | - | - | 100 | - | 4 |
| ME50402 |  | CVV-II | Lab | - | - | - | - | - | - | 100 | 2 |
| ME57703 |  | Semester Project-II | Oral | - | 6 | - | - | - | - | 100 | 2 |
| **Total** |  |  |  | **15** | **12** |  |  |  |  |  | **27** |
|  |  |  |  |  |  |  |  |  |  |  |  |



* CT (Unit 1) 1 hour 30 marks converted to 10 marks + HA (minimum 3) – Total 30 marks converted to 10 marks = 20 marks

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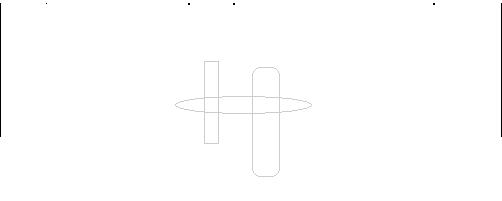
32

Structure & Syllabus of M.E. Mech (Design Engg), Pattern ‘A13’, Issue 1, Rev 0, dated 11/05/2013

**STRUCTURE – SEMESTER III**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Subject | Subject Name | Type | Teaching scheme | |  | Assessment scheme | | | |  | Credits |
| Code |  |  | (Hrs./week) | |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | ISA | | | ESA |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Lect. | Practical | CT\* | MSE |  | HA | CA | ESE |  |
|  |  |  |  |  |  |  |  |  |  |  |  |

**Semester –III**



|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HS66101 | Institute level Open Elective | Theory | 2 | - | 10 | 30 | 10 | - | 50 | 2 |
|  | **Dept. level Open Elective** | Theory | 2 | - | 10 | 30 | 10 | - | 50 | 2 |
| ME66101 | Advanced Material Science |  |  |  |  |  |  |  |  |  |
| ME66102 | Chassis and Body Engineering |  |  |  |  |  |  |  |  |  |
| ME66103 | Design of Experiments |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| ME67702 | Dissertation Stage I | Lab | - | 4# | - | - | - | - | 100 | 15 |
| ME67701 | Technical Seminar II | Lab | - | 2 | - | - | - | - | 100 | 4 |
|  |  |  |  |  |  |  |  |  |  |  |
| **Total** |  |  | **4** | **6** |  |  |  |  |  | **23** |

* CT (Unit 1) 1 hour 30 marks converted to 10 marks + HA (minimum 3) – Total 30 marks converted to 10 marks = 20 marks

MSE – 2 hours 60 marks converted to 30 marks (Unit 2 & 3), ESE – 3 hours 100 marks converted to 50 marks (Unit 1 to 6) ISA – In Semester Assessment, ESA – End Semester Assessment, CT- Class Test,

MSE – Mid Semester Examination, HA- Home Assignment, CA – Continuous Assessment, ESE – End Semester Examination

# - Student is expected to work around 40 hours per week as Self Study

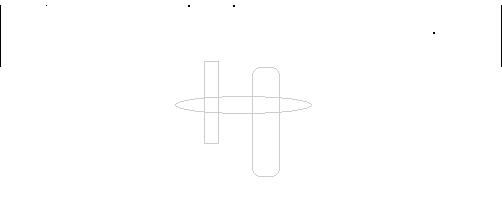
59

Structure & Syllabus of M.E. Mech (Design Engg), Pattern ‘A13’, Issue 1, Rev 0, dated 11/05/2013

**STRUCTURE – SEMESTER IV**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Subject | Subject Name | Type | Teaching scheme | |  | Assessment scheme | | |  | Credits |
| Code |  |  | (Hrs./week) | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | ISA | | | ESA |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Lect. | Practical | CT | MSE | HA | CA | ESE |  |
|  |  |  |  |  |  |  |  |  |  |  |

**Semester –IV**



|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ME67703 | Dissertation Stage II | Lab | - | 8 # | - | - | - | - | 100 | 25 |
| **Total** |  |  |  | **8** |  |  |  |  |  | **25** |

# - Student is expected to work around 40 hours per week as Self Study