**Structure & Syllabus of M.E. Mech (Heat Power Engg), Pattern ‘A13’ wef 2013-14**

Department of Mechanical Engineering

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Title : Syllabus Format – PG Courses** |  |  | **FF No. : 658** |  |  |  |
| **STRUCTURE – SEMESTER I** |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Subject | Subject Name | Type | Teaching scheme |  | Assessment scheme |  | Credits |
| Code |  |  | (Hrs./week) |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | ISA# |  | ESA |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Lect. | Practical | CT\* | MSE |  | HA | CA | ESA |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| **Semester –I** |  |  |  |  |  |  |  |  |  |  |
| ME50101 | Mathematical Methods in Mechanical | Theory | 3 | - | 10 | 30 |  | 10 |  | 50 | 3 |
|  | Engineering |  |  |  |  |  |  |  |  |  |  |
| ME50107 | Thermo Fluids –I | Theory | 3 | - | 10 | 30 |  | 10 |  | 50 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| ME50108 | Advanced Thermodynamics | Theory | 3 | - | 10 | 30 |  | 10 |  | 50 | 3 |
| **Elective I** |  | Theory | 3 | - | 10 | 30 |  | 10 | - | 50 | 3 |
| ME52116 | Advanced Turbo Machines |  |  |  |  |  |  |  |  |  |  |
| ME52117 | Energy Conservation and Management |  |  |  |  |  |  |  |  |  |  |
| ME50102 | Advanced Stress Analysis |  |  |  |  |  |  |  |  |  |  |
| **Elective II** |  | Theory | 3 | - | 10 | 30 |  | 10 | - | 50 | 3 |
| ME52118 | Advanced IC engines |  |  |  |  |  |  |  |  |  |  |
| ME52119 | Advanced Refrigeration Systems |  |  |  |  |  |  |  |  |  |  |
| ME52104 | Process equipment Design |  |  |  |  |  |  |  |  |  |  |
| ME50303 | Thermal Engineering Lab I | Lab | - | 4 | - | - |  | - | 100 | - | 4 |
| HS56301 | Communication and Soft Skill | Lab | - | 2 |  |  |  |  |  | 100 | 2 |
| ME50403 | CVV-I | Oral | - | - |  |  |  |  |  | 100 | 2 |
| ME 57705 | 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

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Department of Mechanical Engineering

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Title: Syllabus Format – PG Courses** |  |  |  |  | **FF No. : 658** |  |  |  |
| **STRUCTURE – SEMESTER II** |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Subject | Subject Name | Type | Teaching scheme |  | Assessment scheme |  | Credits |
| Code |  |  |  | (Hrs./week) |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | ISA# |  | ESA |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Lect. |  | Practical | CT\* | MSE |  | HA | CA | ESA |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Semester –II** |  |  |  |  |  |  |  |  |  |  |  |
| ME50109 | Advanced Measurements and Data | Theory | 3 |  | - | 10 | 30 |  | 10 | - | 50 | 3 |
|  | Analysis |  |  |  |  |  |  |  |  |  |  |  |
| ME50110 | Thermofluids- II | Theory | 3 |  | - | 10 | 30 |  | 10 | - | 50 | 3 |
| ME50111 | Design of Heat Exchangers | Theory | 3 |  | - | 10 | 30 |  | 10 | - | 50 | 3 |
| **Elective III** |  | Theory | 3 |  | - | 10 | 30 |  | 10 | - | 50 | 3 |
| ME52120 | Advanced Air Conditioning |  |  |  |  |  |  |  |  |  |  |  |
| ME52121 | IC engine Fuels and Combustion |  |  |  |  |  |  |  |  |  |  |  |
| ME50106 | Computer Aided Engineering |  |  |  |  |  |  |  |  |  |  |  |
| **Elective IV** |  | Theory | 3 |  | - | 10 | 30 |  | 10 | - | 50 | 3 |
| ME52122 | Cryogenic Engineering |  |  |  |  |  |  |  |  |  |  |  |
| ME52107 | Optimization Techniques |  |  |  |  |  |  |  |  |  |  |  |
| ME52123 | Computational Fluid Dynamics |  |  |  |  |  |  |  |  |  |  |  |
| ME50304 | P G Lab-II/ Thermal Engineering Lab II | Lab | - |  | 4 | - | - |  | - | 100 | - | 4 |
| ME57704 | Technical Seminar-I | Lab | - |  | 2 | - | - |  | - | 100 | - | 4 |
| ME50404 | CVV-II | Oral | - |  | - | - | - |  | - | - | 100 | 2 |
| ME57706 | Semester Project –II | Project |  |  | 6 | - | - |  | - | - | 100 | 2 |
|  |  |  | **15** |  | **12** |  |  |  |  |  |  | **27** |
| **Total** |  |  |  |  |  |  |  |  |  |  |  |  |

* 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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**STRUCTURE: SEMESTER III**

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

**Semester –III**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HS 66101 | **Institute level Open Elective** | Theory | 2 | - | 10 | 30 | 10 | - | 50 | 2 |
|  |  |  |  |  |  |  |  |  |  |  |
|  | **Dept. level Open Elective** | Theory | 2 | - | 10 | 30 | 10 | - | 50 | 2 |
|  |  |  |  |  |  |  |  |  |  |  |
| ME 66104 | Non Conventional Energy Sources |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| ME 66105 | Electronic Cooling And Packaging |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| ME 66106 | Gas Turbine And Jet Propulsion |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| ME67705 | Dissertation Stage I | Lab | - | 4# | - | - | - | - | 100 | 15 |
| ME67704 | 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

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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

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**STRUCTURE – SEMSTER IV**

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

**Semester –IV**



|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ME67706 | Dissertation Stage II | Lab | - | 8# | - | - | - | - | 100 | 25 |
| **Total** |  |  |  | **8** |  |  |  |  |  | **25** |

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

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