**B.E. Mechanical Engineering**

**III SEMESTER**

| Sl. No | Subject Code | Title | Teaching Department | Teaching Hours /Week | | | Examination | | | | Credits |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Lecture | Tutorial | Practical | Duration (Hours) | SEE Marks | CIE Marks | Total Marks | |
| 1 | 17MAT31 | Engineering Mathematics – III | Maths | 04 | | | 03 | 60 | 40 | 100 | 4 |
| 2 | 17ME32 | Materials Science | ME | 04 | | | 03 | 60 | 40 | 100 | 4 |
| 3 | 17ME33 | Basic Thermodynamics | ME | 03 | 02 | | 03 | 60 | 40 | 100 | 4 |
| 4 | 17ME34 | Mechanics of Materials | ME | 03 | 02 | | 03 | 60 | 40 | 100 | 4 |
| 5 | 17ME35A/ 17ME35B | Metal Casting and Welding | ME | 04 | | | 03 | 60 | 40 | 100 | 4 |
| | | Machine Tools and Operations | ME | | | | | | | | |
| 6 | 17ME36 A/ 17ME36B | Computer Aided Machine Drawing | ME | 01 | | 4 | 03 | 60 | 40 | 100 | 3 |
| | | Mechanical Measurements and Metrology | ME | 03 | | | | | | | |
| 7 | 17MEL37A/ 17MEL37B | Materials Testing Lab/ | ME | 1 | | 2 | 03 | 60 | 40 | 100 | 2 |
| | | Mechanical Measurements and Metrology Lab | ME | | | | | | | | |
| 8 | 17MEL38A/ 17MEL38B | Foundry and Forging Lab | ME | 1 | | 2 | 03 | 60 | 40 | 100 | 2 |
| | | Machine Shop/ | ME | | | | | | | | |
| 9 | 17KL/CPH39 /49 | Kannada/Constitution of India, Professional Ethics and Human Rights | Humanities | 1 | | | 01 | 30 | 20 | 50 | 1 |
| **TOTAL** | | | | **22/24** | **04** | **08/04** | | **510** | **340** | **850** | **28** |
| | | | | | | | | | | | |

# MATERIAL SCIENCE

**B.E. Mechanical Engineering**

**IV SEMESTER**

| Sl. No | Subject Code | Title | Teaching Department | Teaching Hours /Week | | | Examination | | | | Credits |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Lecture | Tutorial | Practical | Duration (Hours) | SEE Marks | CIE Marks | Total Marks | |
| 1 | 17MAT41 | Engineering Mathematics – III | Maths | 04 | | | 03 | 60 | 40 | 100 | 04 |
| 2 | 17ME42 | Kinematics of Machinery | ME | 03 | 02 | | 03 | 60 | 40 | 100 | 04 |
| 3 | 17ME43 | Applied Thermodynamics | ME | 03 | 02 | | 03 | 60 | 40 | 100 | 04 |
| 4 | 17ME44 | Fluid mechanics | ME | 03 | 02 | | 03 | 60 | 40 | 100 | 04 |
| 5 | 17ME45A/ 17ME45B | Metal Casting and Welding | ME | 04 | | | 03 | 60 | 40 | 100 | 04 |
| | | Machine Tools and Operations | ME | | | | | | | | |
| 6 | 17ME46 A/ 17ME46B | Computer Aided Machine Drawing | ME | 01 | | 4 | 03 | 60 | 40 | 100 | 03 |
| | | Mechanical Measurements and Metrology | ME | 03 | | | | | | | |
| 7 | 17MEL47A/ 17MEL47B | Materials Testing Lab/ | ME | 1 | | 2 | 03 | 60 | 40 | 100 | 02 |
| | | Mechanical Measurements and Metrology Lab | ME | | | | | | | | |
| 8 | 17MEL48A/ 17MEL48B | Foundry and Forging Lab | ME | 1 | | 2 | 03 | 60 | 40 | 100 | 02 |
| | | Machine Shop/ | ME | | | | | | | | |
| 9 | 17KL/CPH39/ 49 | Kannada/Constitution of India, Professional Ethics and Human Rights | Humanities | 1 | | | 01 | 30 | 20 | 50 | 1 |
| **TOTAL** | | | | **21/23** | **06** | **08/04** | | **510** | **340** | **850** | **28** |

**B.E. Mechanical Engineering**

**V SEMESTER**

| Sl. No | Subject Code | Title | Teaching Hours /Week | | | Examination | | | | Credits |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Lecture | Tutorial | Practical | Duration (Hours) | SEE Marks | CIE Marks | Total Marks | |
| 1 | 17ME51 | Management and Engineering Economics | 3 | 2 | 0 | 03 | 60 | 40 | 100 | 4 |
| 2 | 17ME52 | Dynamics of Machinery | 3 | 2 | 0 | 03 | 60 | 40 | 100 | 4 |
| 3 | 17ME53 | Turbo Machines | 3 | 2 | 0 | 03 | 60 | 40 | 100 | 4 |
| 4 | 17ME54 | Design of Machine Elements - I | 3 | 2 | 0 | 03 | 60 | 40 | 100 | 4 |
| 5 | 17ME55X | Professional Elective-I | 3 | 0 | 0 | 03 | 60 | 40 | 100 | 3 |
| 6 | 17ME56X | Open Elective-I | 3 | 0 | 0 | 03 | 60 | 40 | 100 | 3 |
| 7 | 17MEL57 | Fluid Mechanics & Machinery Lab | 1 | 0 | 2 | 03 | 60 | 40 | 100 | 2 |
| 8 | 17MEL58 | Energy Lab | 1 | 0 | 2 | 03 | 60 | 40 | 100 | 2 |
| **TOTAL** | | | **20** | **08** | **04** | | **480** | **320** | 60 | 40 |

| Professional Elective-I | | Open Elective-I | |
|---|---|---|---|
| 17ME551 | Refrigeration and Air-conditioning | 17ME561 | Optimization Techniques |
| 17ME552 | Theory of Elasticity | 17ME562 | Energy and Environment |
| 17ME553 | Human Resource Management | 17ME563 | Automation and Robotics |
| 17ME554 | Non Traditional Machining | 17ME564 | Project Management |

**1. Core subject:** This is the course, which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.

**2. Professional Elective:** Elective relevant to chosen specialization/ branch

**3. Open Elective**: Electives from other technical and/or emerging subject areas.

**B.E. Mechanical Engineering**

**VI SEMESTER**

| Sl. No | Subject Code | Title | Teaching Hours /Week | | | Examination | | | | Credits |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Lecture | Tutorial | Practical | Duration (Hours) | SEE Marks | CIE Marks | Total Marks | |
| 1 | 17ME61 | Finite Element Analysis | 3 | 2 | 0 | 03 | 60 | 40 | 100 | 4 |
| 2 | 17ME62 | Computer integrated Manufacturing | 4 | 0 | 0 | 03 | 60 | 40 | 100 | 4 |
| 3 | 17ME63 | Heat Transfer | 3 | 2 | 0 | 03 | 60 | 40 | 100 | 4 |
| 4 | 17ME64 | Design of Machine Elements -II | 3 | 2 | 0 | 03 | 60 | 40 | 100 | 4 |
| 5 | 17ME65X | Professional Elective-II | 3 | 0 | 0 | 03 | 60 | 40 | 100 | 3 |
| 6 | 17ME66X | Open Elective-II | 3 | 0 | 0 | 03 | 60 | 40 | 100 | 3 |
| 7 | 17MEL67 | Heat Transfer Lab | 1 | 0 | 2 | 03 | 60 | 40 | 100 | 2 |
| 8 | 17MEL68 | Modeling and Analysis Lab(FEA) | 1 | 0 | 2 | 03 | 60 | 40 | 100 | 2 |
| **TOTAL** | | | **21** | **6** | **04** | | **480** | **320** | 60 | 40 |

| Professional Elective-II | | Open Elective-II | |
|---|---|---|---|
| 17ME651 | Computational Fluid Dynamics | 17ME661 | Energy Auditing |
| 17ME652 | Mechanics of Composite Materials | 17ME662 | Industrial Safety |
| 17ME653 | Metal Forming | 17ME663 | Maintenance Engineering |
| 17ME654 | Tool Design | 17ME664 | Total Quality Management |
| 17ME655 | Automobile Engineering | | |

**1. Core subject:** This is the course, which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.

**2. Professional Elective:** Elective relevant to chosen specialization/ branch

**3. Open Elective**: Electives from other technical and/or emerging subject areas.