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| **Sl. No** | **Course Title** | **Course Code** | **Course Name** | **Type** | **L** | **T** | **P** | **TA** | | **MSE** | | **ESE** | | **Total Marks** | **Credits** |
| **Max** | **Min** | **Max** | **Min** | **Max** | **Min** |
| 1. | **Program Core** | **ME103101ME** | **Material Science** | T | 3 | 1 | 0 | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **4** |
| 2. | **Program Core** | **ME103102ME** | **Mechanics of Solids - I** | T | 3 | 1 | 0 | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **4** |
| 3. | **Program Core** | **ME103103ME** | **Applied Thermodynamics** | T | 3 | 1 | 0 | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **4** |
| 4. | **Program Core** | **ME103104ME** | **Manufacturing Science - I** | T | 3 | 1 | 0 | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **4** |
| 5. | **Program Core** | **ME103105ME** | **Machine Drawing** | T | 1 | 3 | 0 | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **4** |
| 6. | **Program Core** | **ME103001MA** | **Mathematics- III** | T | 4 | 0 | 0 | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **4** |
| 7. | **Laboratory** | **ME103401ME** | **Mechanical Lab-1** | P | 0 | 0 | 2 | **40** | **0** | **20** | **0** | **40** | **0** | **100** | **1** |
| 8. | **Laboratory** | **ME103402ME** | **Mechanical Lab-2** | P | 0 | 0 | 2 | **40** | **0** | **20** | **0** | **40** | **0** | **100** | **1** |
|  |  |  |  |  | **17** | **7** | **4** |  | |  | |  | | **800** | **26** |

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| **Sl. No** | **Course Title** | **Course Code** | **Course Name** | **Type** | **L** | **T** | **P** | **TA** | | **MSE** | | **ESE** | | **Total Marks** | **Credits** |
| **Max** | **Min** | **Max** | **Min** | **Max** | **Min** |
| 1. | **Program Core** | **ME104101ME** | **Fluid Mechanics** | T | 3 | 1 | 0 | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **4** |
| 2. | **Program Core** | **ME104102ME** | **Mechanics of Solids *–* II** | T | 3 | 1 | 0 | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **4** |
| 3. | **Program Core** | **ME104103ME** | **Internal Combustion Engines** | T | 3 | 1 | 0 | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **4** |
| 4. | **Program Core** | **ME104104ME** | **Kinematics of Machines** | T | 3 | 1 | 0 | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **4** |
| 5. | **Program Core** | **ME104105ME** | **Manufacturing Science *–* II** | T | 3 | 1 | 0 | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **4** |
| 6. | **Program Core** | **ME104001MA** | **Mathematics-IV** | T | 4 | 0 | 0 | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **4** |
| 7. | **Laboratory** | **ME104407ME** | **Mechanical Lab-3** | P | 0 | 0 | 2 | **40** | **0** | **20** | **0** | **40** | **0** | **100** | **1** |
| 8. | **Laboratory** | **ME104408ME** | **Mechanical Lab-4** | P | 0 | 0 | 2 | **40** | **0** | **20** | **0** | **40** | **0** | **100** | **1** |
| **Total** | | | | | **19** | **5** | **4** |  | | | | | | **800** | **26** |

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| Sl. No | Course Title | Course Code | Course Name | Type | **L** | **T** | **P** | TA | | MSE | | ESE | | Total Marks | Credits |
| Max | Min | Max | Min | Max | Min |
| 1. | Program Core | ME105101ME | Heat and Mass Transfer | **T** | **3** | **1** | **0** | 20 | **0** | 30 | **0** | 50 | **0** | 100 | **4** |
| 2. | Program Core | ME105102ME | Refrigeration and Air Conditioning | **T** | **3** | **1** | **0** | 20 | **0** | 30 | **0** | 50 | **0** | 100 | **4** |
| 3. | Program Core | ME105103ME | Machine Design - 1 | **T** | **3** | **1** | **0** | 20 | **0** | 30 | **0** | 50 | **0** | 100 | **4** |
| 4. | Program Elective-I | As per given in list | | **T** | **3** | **0** | **0** | 20 | **0** | 30 | **0** | 50 | **0** | 100 | **3** |
| 5. | Program Elective-II | As per given in list | | **T** | **3** | **0** | **0** | 20 | **0** | 30 | **0** | 50 | **0** | 100 | **3** |
| 6. | Open Elective-I | As per given in list | | **T** | **3** | **0** | **0** | 20 | **0** | 30 | **0** | 50 | **0** | 100 | **3** |
| 7. | Laboratory | ME105401ME | Mechanical Lab - 5 | **P** | **0** | **0** | **2** | 40 | **0** | 20 | **0** | 40 | **0** | 100 | **1** |
| 8. | Laboratory | ME105402ME | Mechanical Lab - 6 | **P** | **0** | **0** | **2** | 40 | **0** | 20 | **0** | 40 | **0** | 100 | **1** |
| 9. | Internship | ME105701ME | Summer Internship 1 | **P** | **0** | **0** | **2** | 50 | **0** | **0** | **0** | 50 | **0** | 100 | **1** |
| Total | | | |  | 18 | **3** | **6** |  | |  | |  | | 900 | 24 |

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| The List of Program Elective-I | | |
| SN | Course Code | Subject Name |
| 1. | ME105202ME | Industrial Engineering & Management |
| 2. | ME105203ME | Introduction to Aerospace  Engineering |
| 3. | ME105204ME | Fluid Mechanics II- Fluid Machinery |

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| The List of Program Elective-II | | |
| SN | Course Code | Subject Name |
| 1. | ME105211ME | Design and Optimization of  Energy Systems |
| 2. | ME105212ME | Measurement and Control |
| 3. | ME105213ME | Dynamics and Vibration |

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| The List of Open Elective-I | | |
| SN | Course Code | Subject Name |
| 1 | ME105302ME | Composite Materials and  Mechanics |
| 2. | ME105304ME | Design Thinking and  Production Innovation |
| 3. | ME105305ME | Smart Manufacturing |

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| **Sl. No** | **Course Title** | **Course Code** | **Course Name** | **Type** | **L** | **T** | **P** | **TA** | | **MSE** | | **ESE** | | **Total**  **Marks** | **Credits** |
| **Max** | **Min** | **Max** | **Min** | **Max** | **Min** |
| **1.** | **Program Core** | **ME106101ME** | **Machine Design II-Mechanical Drives** | **T** | **3** | **1** | **0** | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **4** |
| **2.** | **Program Core** | **ME106102ME** | **Dynamics of Machines** | **T** | **3** | **1** | **0** | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **4** |
| **3.** | **Program Core** | **ME106103ME** | **Turbo Machinery** | **T** | **3** | **1** | **0** | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **4** |
| **4.** | **Program Elective-III** | As per given in list | | **T** | **3** | **0** | **0** | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **3** |
| **5.** | **Program Elective-IV** | As per given in list | | **T** | **3** | **0** | **0** | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **3** |
| **6.** | **Open Elective-II** | As per given in list | | **T** | **3** | **0** | **0** | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **3** |
| **7.** | **Laboratory** | **ME106401ME** | **Mechanical Lab – 7** | **P** | **0** | **0** | **2** | **40** | **0** | **20** | **0** | **40** | **0** | **100** | **1** |
| **8** | **Laboratory** | **ME106402ME** | **Mechanical Lab - 8** | **P** | **0** | **0** | **2** | **40** | **0** | **20** | **0** | **40** | **0** | **100** | **1** |
| **Total** | | | |  | **18** | **3** | **4** |  | |  | |  | | **800** | **23** |

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| **The List of Open Elective-II** | | |
| SN | Course Code | Subject Name |
| 1. | ME106302ME | Experimental Stress Analysis |
| 2. | ME106303ME | Robotics |
| 3. | ME106304ME | Smart Materials and Systems |

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| The List of Program Elective-IV | | |
| SN | Course Code | Subject Name |
| 1. | ME106401ME | Additive Manufacturing |
| 2. | ME106402ME | Heat Exchangers:  Fundamental& Design |
| 3. | ME106403ME | Advance Refrigeration and Air Conditioning |
| 4. | ME106404ME | Artificial Intelligence and Machine Learning for Mechanical Engineers |
| 5 | ME106405ME | Automobile Engineering |

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| The List of Program Elective-III | | |
| SN | Course Code | Subject Name |
| 1. | ME106201ME | Air Conditioning Techniques and System Design |
| 2. | ME106202ME | Fatigue Creep and Fracture |
| 3. | ME106203ME | Operations Research |

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| Sl. No | Course Title | Course Code | Course Name | Type | **L** | **T** | **P** | TA | | MSE | | ESE | | Total Marks | Credits |
| Max | Min | Max | Min | Max | Min |
| 1. | Program Core | ME107101ME | Production Management | T | 3 | 1 | 0 | 20 | 0 | 30 | 0 | 50 | 0 | 100 | 4 |
| 2. | Program Core | ME107102ME | Computer Aided Design and Manufacturing | T | 3 | 1 | 0 | 20 | 0 | 30 | 0 | 50 | 0 | 100 | 4 |
| 3. | Program Elective-V | As per given in list | | T | 3 | 0 | 0 | 20 | 0 | 30 | 0 | 50 | 0 | 100 | 3 |
| 4. | Program Elective-VI | As per given in list | | T | 3 | 0 | 0 | 20 | 0 | 30 | 0 | 50 | 0 | 100 | 3 |
| 5. | Open Elective-III | As per given in list | | T | 3 | 0 | 0 | 20 | 0 | 30 | 0 | 50 | 0 | 100 | 3 |
| 6. | Laboratory | ME107401ME | Mechanical Lab – 9 | P | 0 | 0 | 2 | 40 | 0 | 20 | 0 | 40 | 0 | 100 | 1 |
| 7. | Internship | ME107701ME | Summer Internship II | P | 0 | 0 | 0 | 50 | 0 | 0 | 0 | 50 | 0 | 100 | 2 |
| 8. | Laboratory | ME107801ME | Project I | P | 0 | 0 | 6 | 40 | 0 | 20 | 0 | 40 | 0 | 100 | 3 |
| Total | | | |  | 15 | 2 | 8 |  | |  | |  | | 700 | 23 |

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| The List of Program Elective-V | | |
| SN | Course Code | Subject Name |
| 1. | ME107202ME | Solar Energy Utilization |
| 2. | ME107203ME | Computational Fluid  Dynamics |
| 3. | ME107204ME | Finite Element Method |

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| The List of Program Elective-VI | | |
| SN | Course Code | Subject Name |
| 1. | ME107211ME | Energy Conversion System |
| 2. | ME107212ME | Power Plant Engineering |
| 3. | ME107213ME | Tribology |
| 4. | ME107214ME | Alternative fuels and emission control in  internal combustion engines |
| 5. | ME107215ME | Advanced Artificial Intelligence and Machine Learning for Mechanical Engineers |

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| The List of Open Elective-III | | |
| SN | Course Code | Subject Name |
| 1. | ME107301ME | Air Pollution Control |
| 2. | ME107302ME | Integrated Product  Development |
| 3. | ME107303ME | Optimization Techniques |
| 4. | ME107304ME | Industry 5.0 for Engineers |

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| **Sl. No** | **Course Title** | **Course Code** | **Course Name** | **Type** | **L** | **T** | **P** | **TA** | | **MSE** | | **ESE** | | **Total**  **Marks** | **Credits** |
| **Max** | **Min** | **Max** | **Min** | **Max** | **Min** |
| **1.** | **Open Elective-IV** | As per given in list | | **T** | **3** | **0** | **0** | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **3** |
| **2.** | **Open Elective-V** | As per given in list | | **T** | **3** | **1** | **0** | **20** | **0** | **30** | **0** | **50** | **0** | **100** | **3** |
| **3.** | **Project II** | Project II/Major Internship\* | | **T** | **0** | **0** | **8** |  |  |  |  |  |  |  | **4(3^ + 1^^)** |
| **Total** | | | |  | **6** | **1** | **8** |  | |  | |  | |  | **10** |

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| **The List of Open Elective-IV** | | |
| SN | Course Code | Subject Name |
| 1. | **ME108301ME** | **Experimental Techniques**  **for the Engineers** |
| 2. | **ME108302ME** | **Welding Technology** |

\* For Semester Long internship as per the clause number 4.E.6 of CBCS B.Tech Ordinance**.**

^ Report Submission, End Semester Presentation and Viva

^^ Mid Semester Examination (Viva/Presntation)

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| The List of Open Elective-V | | |
| SN | Course Code | Subject Name |
| 1. | ME108311ME | Non-Conventional Energy  Resources |
| 2. | ME108312ME | Nature Inspired Design |