# List of PROGRAM OUTCOMES [PO`s]



The students after successful completion of the course will acquire:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PO1** | Engineering knowledge: An ability to apply basic knowledge of science, mathematics and engineering fundamentals in the field of Mechanical Engineering | | | | | | |
| **PO2** | Problem analysis: An ability to identify, formulate, review research literature and analyze mechanical engineering problems using basics principles of science, mathematics and engineering | | | | | | |
| **PO3** | Design/development of solutions: An ability to design for complex mechanical engineering problems using basic design concepts, analyze and process to meet the desired needs with in realistic constraints such as manufacturability , durability, sustainability and economy with appropriate consideration for the public health, safety, cultural, societal, and environmental considerations. | | | | | | |
| **PO4** | Conduct investigations of complex problems: An ability to design and conduct experiments using research-based knowledge and methods including design of experiments, analyze, interpret the data and results with valid conclusion. | | | | | | |
| **PO5** | Modern tool usage: An ability to apply the modern tools and apply appropriate techniques to synthesize, model, design, analyze, verify and optimize to solve complex mechanical engineering problems within defined specification by using suitable modern tools to satisfy the needs of the society within realistic constraints such as social, economical, political, ethical, health, safety and manufacturing. | | | | | | |
| **PO6** | The Engineer and Society: An ability to understand the impact of mechanical engineering solutions globally, in terms economic, societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. | | | | | | |
| **PO7** | Environment and sustainability: An ability to understand the principles, commitment and practice to improve product sustainable development globally in mechanical engineering with minimal environmental effect. | | | | | | |
| **PO8** | Ethics: An ability to understand and apply ethical principles and commitment to address professional ethical responsibilities of an engineer. | | | | | | |
| **PO9** | Individual and team work: An ability to function efficiently as an individual and as a group member in a team in multidisciplinary activities | | | | | | |
| **PO10** | Communication: An ability to communicate, comprehend and present effectively with engineering community and the society at large on complex engineering activities by receiving clear instructions for preparing effective reports and design documentation. | | | | | | |
| **PO11** | Project management and finance: An ability to acquire and demonstrate the knowledge of contemporary issues related to finance and managerial skills to bring up entrepreneurs and entrepreneurship. | | | | | | |
| **PO12** | . Life-long learning: An ability to recognize and adapt to emerging field of application in engineering and technology by developing self-confidence for continuing education and lifelong learning process. | | | | | | |

# PROGRAM SPECIFIC OUTCOMES [PSO's].



At the end of the program graduates will be able to:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PSO1** | Apply engineering knowledge & analytical skills to design components for applications in the field of machine tools and thermal & fluid systems. | | | | | | |
| **PSO2** | Carry out experiments on models & prototypes of mechanical systems to evaluate their performance. | | | | | | |
| **PSO3** | Use professional best engineering practices & strategies for operation & maintenance of mechanical systems & processes. | | | | | | |

**Class: B.E. SEM VIII Subject: Design of Mechanical Systems**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Course Code | Course Outcome | | | |

**Class: B.E. SEM VIII Subject: Design of Mechanical Systems**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Course Code | Course Outcome | | | |

**Class: B.E. SEM VIII Subject: Design of Mechanical Systems**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Course Code | Course Outcome | | | |

**Class: B.E. SEM VIII Subject: Design of Mechanical Systems**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Course Code | Course Outcome | | | |

**Class: B.E. SEM VII Subject: Design of Mechanical Systems**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Course Code | Course Outcome | | | |
| MEC 701.1 | The learner will be able to Identify the different parts of the hoisting mechanism, belt conveyors, gear boxes, diesel & petrol engine and pumps. | | | |
| MEC 701.2 | The learner will be able to Explain the operating principles of Hoisting mechanism, belt conveyors, gear boxes, diesel & petrol engine and pumps. | | | |
| MEC 701.3 | The learner will be able to Use the basic components to form a suitable power transmission system to satisfy given requirements. | | | |
| MEC 701.4 | The learner will be able to Finalize the dimensions of the system components. | | | |
| MEC 701.5 | The learner will be able to Select appropriate prime movers for the system. | | | |
| MEC 701.6 | The learner will be able to Design the hoisting mechanism, belt conveyors, gear boxes, diesel & petrol engine and pumps with a specific application. | | | |

**Class: B.E. SEM VII Subject: Design of Mechanical Systems**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Course Code | Course Outcome | | | |
| MEC 701.1 | The learner will be able to Identify the different parts of the hoisting mechanism, belt conveyors, gear boxes, diesel & petrol engine and pumps. | | | |
| MEC 701.2 | The learner will be able to Explain the operating principles of Hoisting mechanism, belt conveyors, gear boxes, diesel & petrol engine and pumps. | | | |
| MEC 701.3 | The learner will be able to Use the basic components to form a suitable power transmission system to satisfy given requirements. | | | |
| MEC 701.4 | The learner will be able to Finalize the dimensions of the system components. | | | |
| MEC 701.5 | The learner will be able to Select appropriate prime movers for the system. | | | |
| MEC 701.6 | The learner will be able to Design the hoisting mechanism, belt conveyors, gear boxes, diesel & petrol engine and pumps with a specific application. | | | |

3.1.2 CO-PO and CO-PSO matrices

# 18 Teaching Plan DMS 2018-19.docx (2018-19)

Course Code and Name: MEC 801 - Design of Mechanical Systems

Class and Semester: B.E. SEM VIII

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
| MEC701.1 | 3 | 3 | 3 | 2 | 3 |  |  |  | 2 | 1 |  | 2 | 3 | 2 | 3 |
| MEC701.2 | 3 | 2 | 2 | 2 | 3 |  |  |  | 2 | 1 |  | 2 | 3 | 2 | 3 |
| MEC701.3 | 2 | 2 | 2 | 2 | 3 |  |  |  | 2 | 1 |  | 2 | 3 | 2 | 2 |
| MEC701.4 | 2 | 2 | 2 | 2 | 2 |  |  |  | 2 | 1 |  | 2 | 3 | 1 | 2 |
| MEC701.5 | 2 | 2 | 2 | 2 | 1 |  |  |  | 2 | 1 |  | 2 | 2 | 1 | 2 |
| MEC701.6 | 2 | 2 | 2 | 2 | 1 |  |  |  | 2 | 1 |  | 2 | 2 | 1 | 2 |

# 18 Teaching Plan DMS 2019-20.docx (2019-20)

Course Code and Name: MEC 801 - Design of Mechanical Systems

Class and Semester: B.E. SEM VIII

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
| MEC701.1 | 3 | 3 | 3 | 2 | 3 | 2 |  |  | 2 | 1 |  | 2 | 3 |  |  |
| MEC701.2 | 3 | 2 | 2 | 2 | 2 | 1 |  |  | 2 | 1 |  | 2 | 3 |  |  |
| MEC701.3 | 2 | 2 | 2 | 2 | 2 | 1 |  |  | 2 | 1 |  | 2 | 3 |  |  |
| MEC701.4 | 2 | 2 | 2 | 2 | 2 | 1 |  |  | 2 | 1 |  | 2 | 3 |  |  |
| MEC701.5 | 2 | 2 | 2 | 2 | 1 | 1 |  |  | 2 | 1 |  | 2 | 2 |  |  |
| MEC701.6 | 2 | 2 | 2 | 2 | 1 | 1 |  |  | 2 | 1 |  | 2 | 2 |  |  |

# 18 Teaching Plan DMS 2020-21.docx (2020-21)

Course Code and Name: MEC 801 - Design of Mechanical Systems

Class and Semester: B.E. SEM VIII

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
| MEC701.1 | 3 | 3 | 3 | 2 | 2 | 2 |  |  |  | 1 |  | 2 | 3 | 2 | 2 |
| MEC701.2 | 3 | 2 | 2 | 2 | 2 | 1 |  |  |  | 1 |  | 2 | 3 | 2 | 2 |
| MEC701.3 | 2 | 2 | 2 | 2 | 2 | 1 |  |  |  | 1 |  | 2 | 3 | 2 | 2 |
| MEC701.4 | 2 | 2 | 2 | 2 | 2 | 1 |  |  |  | 1 |  | 2 | 3 | 2 | 2 |
| MEC701.5 | 2 | 2 | 2 | 2 | 1 | 1 |  |  |  | 1 |  | 2 | 2 | 2 | 2 |
| MEC701.6 | 2 | 2 | 2 | 2 | 1 | 1 |  |  |  | 1 |  | 2 | 2 | 2 | 2 |

# 18 Teaching Plan DMS 2021-22.docx (2021-22)

Course Code and Name: MEC 801 - Design of Mechanical Systems

Class and Semester: B.E. SEM VIII

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
| MEC701.1 | 3 | 3 | 3 |  |  |  |  |  | 2 | 1 |  | 2 | 3 | 2 |  |
| MEC701.2 | 3 | 2 | 2 |  |  |  |  |  | 2 | 1 |  | 2 | 3 | 2 |  |
| MEC701.3 | 2 | 2 | 2 |  |  |  |  |  | 2 | 1 |  | 2 | 3 | 2 |  |
| MEC701.4 | 2 | 2 | 2 |  |  |  |  |  | 2 | 1 |  | 2 | 3 | 2 |  |
| MEC701.5 | 2 | 2 | 2 |  |  |  |  |  | 2 | 1 |  | 2 | 2 | 2 |  |
| MEC701.6 | 2 | 2 | 2 |  |  |  |  |  | 2 | 1 |  | 2 | 2 | 2 |  |

# 18 Teaching Plan DMS 2023-24.docx (2023-24)

Course Code and Name: MEC 701 - Design of Mechanical Systems

Class and Semester: B.E. SEM VII

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
| MEC701.1 | 3 | 3 | 3 | 2 | 3 | 2 |  |  | 2 | 1 |  | 2 | 3 | 2 | 3 |
| MEC701.2 | 3 | 2 | 2 | 2 | 3 | 1 |  |  | 2 | 1 |  | 2 | 3 | 2 | 3 |
| MEC701.3 | 2 | 2 | 2 | 2 | 3 | 1 |  |  | 2 | 1 |  | 2 | 3 | 2 | 2 |
| MEC701.4 | 2 | 2 | 2 | 2 | 2 | 1 |  |  | 2 | 1 |  | 2 | 3 | 2 | 2 |
| MEC701.5 | 2 | 2 | 2 | 2 | 1 | 1 |  |  | 2 | 1 |  | 2 | 2 | 2 | 2 |
| MEC701.6 | 2 | 2 | 2 | 2 | 1 | 1 |  |  | 2 | 1 |  | 2 | 2 | 2 | 2 |

# 18 Teaching Plan DMS 2024-25.docx (2024-25)

Course Code and Name: MEC 701 - Design of Mechanical Systems

Class and Semester: B.E. SEM VII

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
| MEC701.1 | 3 | 3 | 3 | 2 | 3 | 2 |  |  | 2 | 1 |  | 2 | 3 | 2 | 3 |
| MEC701.2 | 3 | 2 | 2 | 2 | 3 | 1 |  |  | 2 | 1 |  | 2 | 3 | 2 | 3 |
| MEC701.3 | 2 | 2 | 2 | 2 | 3 | 1 |  |  | 2 | 1 |  | 2 | 3 | 2 | 2 |
| MEC701.4 | 2 | 2 | 2 | 2 | 2 | 1 |  |  | 2 | 1 |  | 2 | 3 | 2 | 2 |
| MEC701.5 | 2 | 2 | 2 | 2 | 1 | 1 |  |  | 2 | 1 |  | 2 | 2 | 2 | 2 |
| MEC701.6 | 2 | 2 | 2 | 2 | 1 | 1 |  |  | 2 | 1 |  | 2 | 2 | 2 | 2 |

# 3.1.3 Program level Course-PO matrix of all courses INCLUDING first-year courses (10)