Department of Mechanical Engineering

Course Outcomes of all courses of B Tech 7th semester MECH

On successful completion of this course, students should be able to

Course	COURSE OUTCOMES	
C401 Design of Transmission System D037711(037)	**C 401.1**	Model, **analyze** and design spur gears.**(Level 4)**
	C 401.2	Model, **analyze** and design helical and bevel gears. **(Level 4)**
	C 401.3	Model, **analyze** and design springs and brakes. **(Level 4)**
	C 401.4	Model, **analyze** and design bearings. **(Level 4)**
	C 401.5	Model, **analyze** and design chain and belt drives. **(Level 4)**

On successful completion of this course, students should be able to

Course	COURSE OUTCOMES	
C402- Refrigeration & Air- Conditioning D037712(037)	**C402.1**	**Analyze**vapour compression refrigeration system. **(Level 4)**
	C402.2	**Analyze** gas and air cycle refrigeration system. **(Level 4)**
	C402.3	**Analyze** vapour absorption system, describe refrigerant and refrigeration equipment. **(Level 4)**
	C402.4	Explain terminologies ofpsychrometry and human comfort and **apply** to **analyze** related problems. **(Level 3,4)**
	C402.5	Carry out cooling load calculations and **describe** air-conditioning systems. **(Level 2)**

On successful completion of this course, students should be able to

Course	COURSE OUTCOMES	
C403- Automation in Manufacturing D037713(037)	**C403.1**	**Illustrate** the basic concepts of automation in machine. **(Level 3)**
	C403.2	**Explain** the fundamentals of CAD.. **(Level 2)**
	C403.3	**Explain** the basics of computer aided manufacturing.. **(Level 2)**
	C403.4	**Discuss** the low cost automation systems. **(Level 4)**
	C403.5	**Explain** the basic concepts of modeling and simulation. **(Level 2)**

On successful completion of this course, students should be able to

Course	COURSE OUTCOMES	
C404-Machine Tool Technology D037731(037)	**C404.1**	**Demonstrate** an understanding of cutting tool materials and tool geometries and **apply** mechanics of metal cutting for analysis of related
	C404.2	**Demonstrate** an understanding of concepts of machinability, mechanism of tool failure, thermal aspects in machining and cutting fluid. **(Level 3)**
	C404.3	**Describe** the construction features of machine tool elements and **analyze** the forces and torque acting on it. **(Level 2)**
	C404.4	**Design** speed gear box. **(Level 6)**
	C 404.5	**Design** feed gear box and describe acceptance tests of machine tools. **(Level 6)**

On successful completion of this course, students should be able to

Course	COURSE OUTCOMES	
C405- Non Conventional Energy Sources D000724(025)	**C405.1**	**Demonstrate** the generation of electricity from various Non-Conventional sources of energy, have a working knowledge on types of fuel cells. **(Level 3)**
	C405.2	**Estimate** the solar energy, Utilization of it, **Principles** involved in solar energy collection and conversion of it to electricity generation.**(Level 3,2,4)**
	C405.3	**Explore** the concepts involved in wind energy conversion system by studying its components, types and performance. **(Level 3)**
	C405.4	**Illustrate** ocean energy and explain the operational methods of their utilization. **(Level 3)**
	C405.5	**Acquire** the knowledge on geothermal energy. **(Level 1)**

On successful completion of this course, students should be able to

Course	COURSE OUTCOMES	
C406- Refrigeration & Air- Conditioning Lab D037721(037)	**C406.1**	**Describe** the construction and working of different refrigeration and air conditio equipments. **(Level 2)**
	C406.2	**Analyze** performance parameters of refrigeration system. **(Level 4)**
	C406.3	**Analyze** performance parameters of mechanical heat pump. **(Level 4)**
	C406.4	**Analyze** performance parameters of air conditioning system. **(Level 4)**
	C406.5	**Simulate** and **analyze** various air conditioning processes. **(Level 3,6,4)**

On successful completion of this course, students should be able to

Course	COURSE OUTCOMES	
C407- CIM & Automation Lab D037722(037)	**C407.1**	**Demonstrate** an understanding of concepts discussed in Computer Integrated Manufacturing courseandits implementation in manufacturing**(Level 3)**
	C407.2	**Write** CNC part programs using CADEM simulation package for simulation of machining operations such as Turning, Drilling & Milling. **(Level 6)**
	C407.3	**Write** programs for Flexible Manufacturing Systems. **(Level 6)**
	C407.4	**Write** programs for Robotics. **(Level 6)**
	C407.5	**Demonstrate** an **understanding** of the operating principles of hydraulics, pneumatics and electro–pneumatic systems. **(Level 3,2)**

On successful completion of this course, students should be able to

Course	COURSE OUTCOMES	
C408- Project (Phase I) D037723(037)	**C408.1**	**Technical Skills Development** Students will apply programming languages (e.g., Java, Kotlin) and development frameworks (e.g., Android Studio) to build a functional mobile application. **Level: 2**
	C408.2	**Problem-Solving Abilities** Students will analyze user requirements and identify challenges in task management. They will devise solutions to address usability issues and enhance user experience through features such as task categorization and prioritization.**Level: 3**
	C408.3	**Communication Skills Enhancement** Students will evaluate user feedback obtained through surveys and usability testing. They will communicate their findings effectively through project reports and presentations, articulating improvements made based on user input.**Level: 4**
	C408.4	**Professional Development** Students will create a professional portfolio showcasing their mobile application development skills. They will document the project's design process, coding practices, and testing methodologies to demonstrate their proficiency to potential employers.**Level: 5**
	C408.5	**Collaboration and Teamwork** Students will apply effective collaboration and teamwork skills throughout the project lifecycle. They will assign roles and responsibilities, communicate project milestones, and resolve conflicts to ensure the timely delivery of the mobile application.**Level: 2**

On successful completion of this course, students should be able to

Course	COURSE OUTCOMES	
C409-Industrial Training D037724(037)	**C409.1**	**Technical Skill Development** Participants will apply programming languages (e.g., Java, Python) and development frameworks (e.g., Spring Boot, Django) to create functional software applications. **Level: 3**
	C409.2	**Problem-Solving Abilities** Participants will analyze complex software problems and debug code effectively using problem-solving techniques such as root cause analysis and systematic debugging strategies.**Level: 4**
	C409.3	**Communication and Documentation** Participants will evaluate their ability to communicate technical concepts clearly through written documentation, such as technical specifications, user manuals, and project reports, ensuring effective knowledge transfer and collaboration. **Level: 5**
	C409.4	**Project Management Skills** Participants will create project plans, including task scheduling, resource allocation, and risk management strategies, demonstrating their ability to manage software development projects effectively.**Level: 6**
	C409.5	**Collaboration and Teamwork** Participants will apply effective teamwork and collaboration skills while working on group projects or collaborating with colleagues, fostering a positive team environment and achieving project goals collectively. **Level: 2**