G. S. Mandal's

Maharashtra Institute of Technology (An Autonomous Institute), Aurangabad

Department of Mechanical Engineering

Second Year Mechanical Engineering Part II

COURSE OUTCOMES

Course Name:	**Complex Variable & Vector Calculus**
Course Code	**BSC 251B**
251.1	Find the Fourier transform of given function
251.2	Express the function in Fourier series in different intervals
251.3	Discuss the function of complex variables
251.4	Make use of partial derivatives for differentiation of vector functions
251.5	Evaluate vector integral by Stoke's theorem & Gauss theorem
251.6	Solve the difference equations by z-transform /Solve partial differential equations by separation of variables

CO-PO-PSO MAPPING

COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**
251.1	2	1	-	-	-	-	-	-	-	-	-	-	1	-	2
251.2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	2
251.3	2	1	-	-	-	-	-	-	-	-	-	-	-	1	2
251.4	2	1	-	-	-	-	-	-	-	-	-	-	-	-	2
251.5	2	1	-	-	-	-	-	-	-	-	-	-	-	-	2
251.6	2	1	-	-	-	-	-	-	-	-	-	-	1	1	2

COURSE OUTCOMES

Course Name:	**Machine Drawing**
Course Code	**MED 251**
251.1	Convert pictorial views of machine components into sectional orthographic views.
251.2	Draw the development of the lateral surface of cut solids and the plane that cuts the solid
251.3	Interpret the true shape of arrangement of any geometric solids like prisms, pyramids, cone, cylinder and any other standard machine component
251.4	Draw different engineering curves and know their applications
251.5	Classify various machine parts and their joints using standard conventions.
251.6	Develop an assembly drawing using parts drawing of machine components

CO-PO-PSO MAPPING

COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**
251.1	3	-	-	-	-	-	-	-	-	-	-	-	2	-	-
251.2	3	-	-	-	-	-	-	-	-	-	-	-	2	-	-
251.3	3	-	-	-	-	-	-	-	-	-	-	-	2	-	-
251.4	3	-	-	-	-	-	-	-	-	-	-	-	2	-	-
251.5	3	2	2	-	-	-	-	-	-	-	-	-	2	-	-
251.6	3	2	2	-	-	-	-	-	-	-	-	-	2	-	-

COURSE OUTCOMES

Course Name:	Artificial Intelligence in Manufacturing
Course Code	**MED 252**
252.1	Discuss the concept of Artificial Intelligence
252.2	Interpret the role of various domains of Artificial Intelligence in view of manufacturing domain
252.3	Explain the various techniques and applications of computer vision with respect to the manufacturing domain
252.4	Demonstrate the awareness about role of robotics in the manufacturing domain
252.5	Choose the appropriate AI use case for solving given problem in manufacturing domain
252.6	Build a machine learning model in Python by using any of the ML algorithms

CO-PO-PSO MAPPING

COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**
252.1	-	-	-	-	3	-	-	-	-	-	-	-	-	-	3
252.2	-	-	-	-	3	-	-	-	-	-	-	-	-	-	3
252.3	-	-	-	-	3	-	-	-	-	-	-	-	-	-	3
252.4	2	-	-	-	3	-	-	-	-	-	-	-	-	-	3
252.5	-	-	3	-	-	-	-	-	-	-	-	-	-	-	3
252.6	1	-	1	-	3	-	-	-	-	-	-	-	-	-	3

COURSE OUTCOMES

Course Name:	Engineering Thermodynamics
Course Code	**MED 253**
253.1	Recall the concepts of physics and thermodynamics
253.2	Summarize governing equations and principles of physics, thermodynamics, and fluid mechanics applicable for various thermal systems.
253.3	Apply thermodynamics laws for studying performance of boiler, steam nozzle, steam turbines, condenser, steam power cycles, air standard cycles and reciprocating air compressor
253.4	Analysis of various thermodynamic power cycles
253.5	Evaluate the performance analysis of various thermal systems
253.6	Elaborate the energy performance assessment for various thermal machines and utility systems.

CO-PO-PSO MAPPING

COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**
253.1	2	-	-	-	-	-	-	-	-	-	-	-	-	2	-
253.2	2	-	-	-	-	-	-	-	-	-	-	-	-	2	-
253.3	2	2	-	-	-	-	-	-	-	-	-	-	-	2	-
253.4	2	2	-	-	-	-	-	-	-	-	-	-	-	2	-
253.5	2	-	-	-	-	-	-	-	-	-	-	-	-	2	-
253.6	2	-	2	-	-	-	-	-	-	-	-	-	-	2	-

COURSE OUTCOMES

Course Name:	Additive Manufacturing
Course Code	**MED 281**
281.1	Understand the working principles and process parameters of additive manufacturing processes
281.2	Explore different additive manufacturing processes and suggest suitable methods for building a particular component
281.3	Design and develop a working model using additive manufacturing Processes
281.4	Perform suitable post processing operation based on product repair requirement
281.5	Select various engineering materials based on the properties and desired applications
281.6	Create aesthetic models having market appeal

CO-PO-PSO MAPPING

COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**
281.1	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-
281.2	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-
281.3	2	-	2	-	-	-	-	-	-	-	-	-	2	-	-
281.4	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-
281.5	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-
281.6	2	-	2	-	-	-	-	-	-	-	-	-	2	-	-

COURSE OUTCOMES

Course Name:	Modern Energy Sources
Course Code	**MED 282**
282.1	Recall the fundamental concepts of energy conversion and conservation for various modern energy sources
282.2	Summarize the main components of energy conversion systems applicable for various modern energy sources
282.3	Apply the basic concepts and knowledge for the performance analysis of different energy systems
282.4	Comparison of various modern energy sources and systems based on various parameters
282.5	Examine modern energy systems based on design aspect/criteria
282.6	Inference the data of modern energy sources to meet future energy demand.

CO-PO-PSO MAPPING

COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**
282.1	2	-	-	-	-	-	-	-	-	-	-	-	-	2	-
282.2	2	-	-	-	-	-	-	-	-	-	-	-	-	2	-
282.3	2	2	-	-	-	-	-	-	-	-	-	-	-	2	-
282.4	2	2	-	-	-	-	-	-	-	-	-	-	-	2	-
282.5	2	-	-	-	-	-	-	-	-	-	-	-	-	2	-
282.6	2	-	2	-	-	-	-	-	-	-	-	-	-	2	-

COURSE OUTCOMES

Course Name:	Industrial Hydraulic and Pneumatics
Course Code	**MED 283**
283.1	Determine the importance of Hydraulic and Pneumatic Systems in industry automation.
283.2	Identify various components like pumps, Motors and Actuators used in Hydraulic systems.
283.3	Describe the various Hydraulic Valves and Hydraulic system Accessories used in industry
283.4	Design and simulate the Hydraulic, Pneumatic, Electro-Hydraulic and Electro-Pneumatic circuits using software and experimentation.
283.5	Determine various Pneumatic systems and its application in industry
283.6	Describe various Pneumatic Cylinders, Motors, and Valves for industry

CO-PO-PSO MAPPING

COs	**POs**												**PSOs**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**
283.1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
283.2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
283.3	3	-	-	-	-	-	-	-	-	-	-	-	1	-	-
283.4	-	3	-	-	-	-	-	-	-	-	-	-	3	-	-
283.5	1	2	-	-	-	-	-	-	-	-	-	-	2	-	-
283.6	-	3	-	-	-	-	-	-	-	-	-	-	3	-	-