BESCK204D

Second Semester B.E./B.Tech. Degree Examination, June/July 2025
Introduction to Mechanical Engineering

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Explain briefly the emerging trends of Mechanical engineering in manufacturing and energy sector.	10	L2	CO1
	b.	Write a note on : i) Global warming ii) Ozone layer depletion.	10	L2	CO1
		OR			
Q.2	a.	Explain the working of hydel power plant with a neat sketch.	10	L2	CO1
	b.	Explain with neat sketch, construction and working of a nuclear power plant.	10	L2	CO1
		Module – 2			
Q.3	a.	Explain the working principle of Drilling Machine.	04	L2	CO2
	b.	Illustrate the following operations of milling with sketches: i) Plain milling ii) Slot milling	08	L3	CO2
	c.	With a neat sketch, explain the following operations performed on lathe machine: i) Turning ii) Facing	08	L2	CO2
		OR			
Q.4	a.	Describe the various components of CNC with schematic diagram.	10	L2	CO2
	b.	Define 3D printing. List the various steps involved in the 3D printing.	06	L2	CO2
	c.	List the advantages and applications of CNC.	04	L1	CO2
		Module – 3			
Q.5	a.	Analyze the working of the 4 stroke diesel engine with sketches. Plot the PV diagram.	12	L3	CO3
	b.	List the differences between 4 stroke petrol and diesel engine.	08	L1	CO3
		OR			
Q.6	a.	Describe electric vehicles. Explain the components and working of electric vehicles.	08	L2	CO3
	b.	Describe Hybrid Vehicles. Explain the components of Hybrid vehicles.	08	L2	CO3
	c.	List the advantages and limitations of electric vehicles.	04	L1	CO3

Module – 4

Q.7	a.	Define engineering material. Briefly explain the classification of ferrous and non ferrous metals.	10	L2	CO4
	b.	Describe the following materials: i) Ceramics ii) Shape memory alloys iii) Glass iv) Diamond	10	L2	CO4

OR

Q.8	a.	List the differences between soldering, brazing and welding.	10	L1	CO4
	b.	Describe the construction and working of gas welding process with neat sketch.	10	L2	CO4

Module – 5

Q.9	a.	Enumerate the differences between open loop and closed loop systems.	06	L1	CO5
	b.	Based on the configuration explain different types of robots with sketches.	10	L2	CO5
	c.	Explain the physical design of IoT.	04	L2	CO5

OR

Q.10	a.	Define automation. Explain the three types of automation.	10	L2	CO5
	b.	Define IoT. List the characteristics of IoT.	10	L1	CO5

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