

CBCS SCHEME

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BESCK204D/BESCKD204

Second Semester B.E./B.Tech. Degree Examination, June/July 2024 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.	With a neat sketch explain the working principle of Nuclear Power Plant.	10	L2	CO1
	b.	Write a short note on the following: i) Global Warming ii) Ozone Depletion	10	L2	CO1
OR					
Q.2	a.	Elucidate the emerging trends and technologies in the following sectors: i) Manufacturing sector ii) Energy sector	08	L2	CO1
	b.	With a neat sketch explain the working principle of Hydro Power Plant.	08	L2	CO1
	c.	What is the role of mechanical engineering in Industries and Society?	04	L1	CO1
Module - 2					
Q.3	a.	What is CNC? Explain the basic components of CNC machine with a neat sketch.	10	L1 L2	CO2
	b.	List different operations that can be performed on Lathe Machine and explain the following with a neat sketch: i) Turning ii) Knurling	10	L1 L2	CO2
OR					
Q.4	a.	List the operations that are performed on Drilling machine and explain the below: i) Boring ii) Drilling	10	L1 L2	CO2
	b.	List the advantages and applications of CNC.	06	L1	CO2
	c.	Write a short note on 3D printing.	04	L2	CO2
Module - 3					
Q.5	a.	With a neat sketch explain the working principle of 4 stroke petrol engine along with P.V. diagram.	10	L2	CO3
	b.	Explain the components of Electric and Hybrid vehicle with a neat sketch.	10	L2	CO3
OR					
Q.6	a.	With a neat sketch explain the working principle of 4 stroke CI engine along with P.V diagram.	10	L2	CO3
	b.	Discuss the concept of Electric and Hybrid vehicles. Also list the advantages and disadvantages of EVs and Hybrid vehicles.	10	L2	CO3
Module - 4					
Q.7	a.	Classify engineering materials.	04	L2	CO4
	b.	Differentiate between Soldering, Brazing and Welding.	10	L2	CO4
	c.	Write a short note on Diamond and Silica materials.	06	L2	CO4
OR					
Q.8	a.	Explain the working principle of Electric Arc Welding with a neat sketch.	10	L2	CO4
	b.	Explain different types of Flames used in Gas welding.	06	L2	CO4
	c.	Write a short note on Shape Memory Alloys.	04	L2	CO4
Module - 5					
Q.9	a.	Define Automation. Explain the types of automation.	10	L1 L2	CO5
	b.	With an example explain open and closed loop mechatronic system.	10	L2	CO5
OR					
Q.10	a.	Define IoT and explain the characteristics of IoT.	10	L1 L2	CO5
	b.	Explain the functional blocks of IoT with a neat sketch.	10	L2	CO5
