

# CBCS SCHEME

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BESCK204D



**Second Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026**  
**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					
Q.1	a.	What is the role of mechanical engineering in industries and society? Give suitable examples.	10	L2	CO1
	b.	Write about latest trends and new technologies used in energy and automotive sectors.	10	L2	CO1
OR					
Q.2	a.	List different types of energy sources. Sketch and explain hydel power plant.	10	L2	CO1
	b.	What are global warming and Ozone layer depletion? Mention their causes and effects.	10	L2	CO1
Module – 2					
Q.3	a.	Sketch and explain following operations in Lathe : i) Turning ii) Knurling.	10	L2	CO2
	b.	With a neat diagram explain CNC system in manufacturing. Write about its advantages.	10	L2	CO2
OR					
Q.4	a.	Describe the working of a drilling machine and explain any two drilling operations.	10	L2	CO2
	b.	What is 3D-printing? Explain its basic working stages and applications.	10	L2	CO2
Module – 3					
Q.5	a.	Differentiate between 4-stroke petrol engine and 4-stroke diesel engine.	10	L2	CO3
	b.	What are Electric vehicles and Hybrid vehicles? With a block diagram explain components of electric vehicle.	10	L2	CO3
OR					
Q.6	a.	Describe the working of a 4-stroke petrol engine with the help of neat sequence of strokes.	10	L2	CO3
	b.	List advantages and disadvantages of electric and hybrid vehicles.	10	L2	CO3
Module – 4					
Q.7	a.	Classify engineering materials. Explain the application of ferrous and non-ferrous metals.	10	L2	CO4
	b.	What is a shape memory alloy? Explain the working principle and applications.	10	L2	CO4
OR					
Q.8	a.	Explain the working principle of arc welding and gas welding. Sketch the types of flames used in gas welding and their applications.	10	L2	CO4
	b.	Compare soldering, brazing and welding.	10	L2	CO4
Module – 5					
Q.9	a.	What is Mechatronics? Explain open-loop and closed-loop mechatronic systems with examples.	10	L2	CO5
	b.	Explain polar and Cartesian robot configurations.	10	L2	CO5
OR					
Q.10	a.	Explain types of automations.	10	L2	CO5
	b.	What do you mean by Internet of Things (IoT)? Explain main characteristics and functional blocks.	10	L2	CO5

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