

# CBCS SCHEME

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BME302

## Third Semester B.E./B.Tech. Degree Examination, June/July 2025 Manufacturing Process

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.	What is Pattern? Explain the following patterns used in sand casting. i) Split pattern ii) Match plate pattern iii) Sweep pattern	10	L2	CO1
	b.	Sketch and Explain Jolt type moulding machine.	10	L2	CO1
<b>OR</b>					
Q.2	a.	Illustrate the different steps involved in shell moulding process.	10	L2	CO1
	b.	Explain how to determine the amount of clay present in the foundry sand.	10	L2	CO1
<b>Module – 2</b>					
Q.3	a.	Explain with neat sketch the construction and working of direct arc electric furnace.	10	L2	CO2
	b.	With a neat sketch, explain resistance furnace.	10	L2	CO2
<b>OR</b>					
Q.4	a.	What is die casting? With a neat sketch explain hot chamber die casting process.	10	L2	CO2
	b.	With a neat sketch explain semi-centrifugal casting process.	10	L2	CO2
<b>Module – 3</b>					
Q.5	a.	Distinguish between hot working and cold working process.	10	L4	CO3
	b.	Derive an expression for wire drawing load by slab analysis.	10	L3	CO1
<b>OR</b>					
Q.6	a.	Explain bending operations with suitable sketches.	10	L2	CO3
	b.	With neat sketches, explain combination die and progressive die.	10	L2	CO3
<b>Module – 4</b>					
Q.7	a.	With a neat sketch, Explain Gas Tungsten Arc Welding (GTAW) Process.	10	L2	CO4
	b.	Distinguish between GAS Metal Arc Welding (GMAW) and Gas Tungsten Arc Welding (GTAW).	10	L1	CO4
<b>OR</b>					
Q.8	a.	Explain submerged Arc Welding (SAW) process with a neat sketch.	10	L2	CO4
	b.	Analyze the types of flames that can be obtained during oxy-acetalene welding process.	10	L2	CO4
<b>Module – 5</b>					
Q.9	a.	Explain the following weld defects with neat sketches. i) Inclusion ii) Over penetration iii) Porosity iv) Undercut v) Spatter	10	L2	CO5
	b.	Write a note on Heat Affected Zone (HAZ) in welding with neat sketch.	10	L1	CO5
<b>OR</b>					
Q.10	a.	Define soldering. Explain soldering iron process with a neat sketch.	10	L2	CO5
	b.	With a neat sketch. Explain friction stir welding process.	10	L2	CO1

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