

# CBCS SCHEME

BME302



**Third Semester B.E./B.Tech. Degree Supplementary Examination,  
June/July 2024**

## 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? State the functions of a pattern and classify it.	08	L1	CO1
	b.	Explain the different steps involved in the shell moulding process with neat sketches.	10	L2	CO1
	c.	List the functions of a Riser.	02	L1	CO1
<b>OR</b>					
Q.2	a.	With a neat sketch explain the working of the Jolt Moulding Machine.	10	L2	CO1
	b.	Explain in detail the procedure to determine the permeability number of green sand in the foundry lab.	08	L2	CO1
	c.	Discuss the importance of binders.	02	L2	CO1
<b>Module – 2</b>					
Q.3	a.	With a neat sketch describe the construction and working of Cupola furnace.	10	L2	CO2
	b.	With a neat sketch describe the construction and working of an Induction furnace (Coreless type).	10	L2	CO2
<b>OR</b>					
Q.4	a.	Explain the Hot Chamber pressure die-casting process with a neat sketch.	10	L2	CO2
	b.	Explain with a neat sketch any five casting defects.	10	L2	CO2
<b>Module – 3</b>					
Q.5	a.	Differentiate between Cold working and Hot working processes.	10	L1	CO3
	b.	Define bulk forming and briefly explain the following terms with a neat sketch: Rolling, Extrusion, Forging and Wire drawing.	10	L1 L2	CO3
<b>OR</b>					
Q.6	a.	Explain the following yield criteria: i) Tresca yield criteria    ii) Von Mises yield criteria.	10	L2	CO3
	b.	Explain the following sheet metal forming process with a neat sketch: i) Blanking    ii) Piercing    iii) Bending	10	L2	CO3
<b>Module – 4</b>					
Q.7	a.	Explain with a neat sketch of Manual Metal Arc Welding (MMAW) and also mention its advantages, disadvantages and applications.	10	L2	CO4
	b.	Explain with neat sketch types of flames produces in the Oxy-Acetylene welding process.	10	L2	CO4
<b>OR</b>					
Q.8	a.	Explain with a neat sketch of Submerged Arc Welding (SAW), mention its advantages, disadvantages and applications.	10	L2	CO4
	b.	Define the welding process, classify it and list its applications, advantages and limitations of it.	10	L1	CO4
<b>Module – 5</b>					
Q.9	a.	Write a short note on the concept of weldability of materials.	10	L1	CO5
	b.	Explain with a neat sketch any five welding defects.	10	L2	CO5
<b>OR</b>					