

# CBCS SCHEME

USN

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**BME302**

**Third Semester B.E./B.Tech. Degree 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.	Define Casting. List the steps involved in making a sand casting.	4	L1	CO1
	b.	Briefly discuss the importance of binders and additives in sand moulding.	8	L2	CO2
	c.	Enlist and explain in detail various allowances given to the pattern and reasons to provide the allowances.	8	L2	CO2
<b>OR</b>					
Q.2	a.	Differentiate between gravity and pressure die casting.	4	L1	CO1
	b.	With a neat sketch, explain the working of the Jolt machine.	8	L2	CO2
	c.	With a neat sketch, explain continuous casting process and mention its merits and demerits.	8	L2	CO2
<b>Module – 2</b>					
Q.3	a.	List and explain in brief the four types of furnaces classification.	6	L2	CO3
	b.	Explain with a neat sketch of working of coreless induction furnace.	6	L2	CO3
	c.	With a neat sketch, explain the different zones present in CUPOLA furnace.	8	L2	CO3
<b>OR</b>					
Q.4	a.	Give the differences between direct arc electric furnace and indirect arc electric furnace.	8	L1	CO3
	b.	With a neat sketch, explain centrifuge casting. State the advantages and disadvantages of centrifugal casting.	12	L2	CO3
<b>Module – 3</b>					
Q.5	a.	Give the detailed relationship between stress strain.	6	L1	CO1
	b.	Enumerate the concept of annealing with sketch.	6	L2	CO3
	c.	Differentiate between soldering and brazing with respect to joint strength and give its applications?	8	L2	CO3

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## OR

Q.6	a.	Give the detailed classification of metal forming process.	4	L1	CO1
	b.	With the help of neat sketch explain blanking process.	6	L2	CO3
	c.	With the help of the neat sketch, explain V-bending and edge bending operation.	10	L2	CO3

## Module – 4

Q.7	a.	Sketch and explain tig welding process. Mention its advantages, disadvantages and applications.	12	L2	CO3
	b.	With the help of neat sketch explain oxyacetylene welding.	8	L2	CO3

## OR

Q.8	a.	Explain with neat sketch submerged arc welding process and its applications.	10	L2	CO4
	b.	Explain with neat sketch laser welding and mention its advantages and disadvantages.	10	L2	CO4

## Module – 5

Q.9	a.	Explain the following: i) Residual stress in welding ii) Distortion in welding iii) Shrinkage in welding.	10	L2	CO4
	b.	With a neat sketch, explain the friction stir. Discuss the advantages and disadvantages.	10	L2	CO4

## OR

Q.10	a.	List and explain welding defects and remedies.	10	L2	CO4
	b.	Explain the concept of weldability and the thermal effects.	10	L2	CO4

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