

CBCS SCHEME

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
OR					
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
Module – 2					
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
OR					
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
Module – 3					
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

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
