

# CBCS SCHEME

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BMT303

## Third Semester B.E./B.Tech Degree Examination, Dec.2023/Jan.2024 Material Science and Manufacturing Technology

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.	Explain Atomic packing factor. Find the APF for a body centered cubic unit cell.	10	L2	CO1
	b.	List and describe the factors affecting atomic diffusion.	10	L1	CO1
OR					
Q.2	a.	Explain the difference between screw and edge dislocation.	10	L2	CO1
	b.	Draw and describe the stress strain curve for Ductile and Brittle behavior.	10	L1	CO1
Module - 2					
Q.3	a.	Explain the classification of composites materials.	10	L2	CO2
	b.	Draw and explain spray-up process.	10	L3	CO2
OR					
Q.4	a.	Illustrate the advantages, disadvantages and applications areas of composites materials.	10	L2	CO3
	b.	Draw and explain the phase transformation of shape memory alloys.	10	L3	CO3
Module - 3					
Q.5	a.	Explain the importance and classification of manufacturing process.	10	L1	CO3
	b.	Draw and explain coreless induction furnace.	10	L3	CO3
OR					
Q.6	a.	Define melting furnaces. List the process of selection of melting furnace.	10	L1	CO3
	b.	Draw and explain hot chamber die casting process.	10	L3	CO3
Module - 4					
Q.7	a.	Draw and explain the oxy-acetylene welding process.	10	L3	CO4
	b.	Define welding process and explain the classification of welding process.	10	L1	CO4
OR					
Q.8	a.	Draw and explain the resistance seam welding process.	10	L3	CO4
	b.	Define Thermite welding and explain with a neat sketch thermic welding process.	10	L1	CO4
Module - 5					
Q.9	a.	Draw and explain the specification of lathe.	10	L3	CO5
	b.	Compare the difference between up-milling and down-milling.	10	L2	CO5
OR					
Q.10	a.	Draw the explain vertical milling machine.	10	L3	CO5
	b.	Illustrate the different elements used in cutting tool materials and their properties.	10	L2	CO5

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