



CBCS SCHEME

BMT303

Third Semester B.E./B.Tech. Degree Supplementary Examination,
June/July 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.	Define Atomic packing factor. Find the APF for a face centered cubic unit cell.	10	L2	CO1
	b.	List and explain various types of crystal imperfection.	10	L1	CO1
OR					
Q.2	a.	Define and explain FICKS I and II law of diffusion.	10	L2	CO1
	b.	Sketch and explain the stress strain curve for ductile material and brittle materials.	10	L1	CO1
Module – 2					
Q.3	a.	Draw and explain hand lay up process.	10	L3	CO2
	b.	Explain the classification of composites materials.	10	L2	CO2
OR					
Q.4	a.	Draw and explain filament winding process.	10	L3	CO2
	b.	Explain the biological applications of shape memory alloys.	10	L2	CO2
Module – 3					
Q.5	a.	Explain the steps involved in casting process.	10	L1	CO3
	b.	Draw and explain the classification of patterns.	10	L3	CO3
OR					
Q.6	a.	Draw and explain resistance furnace.	10	L3	CO3
	b.	Draw and explain continuous casting process.	10	L3	CO3
Module – 4					
Q.7	a.	Define welding process. Explain the advantages, disadvantages and applications of welding.	10	L1	CO4
	b.	Draw and explain Tungsten inert gas welding.	10	L3	CO4

OR

Q.8	a.	Draw and explain shielded metal arc welding process.	10	L3	CO4
	b.	Draw and explain resistance seam welding process.	10	L3	CO4

Module – 5

Q.9	a.	Draw and explain lathe operation i) Cylindrical turning ii) Facing.	10	L3	CO5
	b.	Compare the difference between up milling and down milling process.	10	L2	CO5

OR

Q.10	a.	Draw and explain horizontal milling process.	10	L3	CO5
	b.	Illustrate various drilling operations with sketch.	10	L2	CO5
