PVP 22

Code: 22MEMD1T6B

I M.Tech - I Semester – Regular Examinations - MARCH - 2023

MECHANICS OF COMPOSITE MATERIALS
(MACHINE DESIGN)

Duration: 3 hours Max. Marks: 60

Note: 1. This paper contains 4 questions from 4 units of Syllabus. Each unit carries 15 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

BL – Blooms Level CO – Course Outcome

			BL	CO	Max. Marks
UNIT-I					
1	a)	Classify composites in detail.	L2	CO1	10 M
	b)	With a neat sketch explain autoclave molding.	L2	CO1	5 M
OR					
2	a)	Compare and contrast thermoset and thermoplastic polymers	L2	CO1	8 M
	b)	Discuss about ceramic matrix composites	L2	CO1	7 M
UNIT-II					
3	a)	Explain the strength of composite for transverse compression and in plane shear.	L3	CO2	8 M
	b)	Analyse the maximum stress theory in detail.	L3	CO2	7 M

		OR			
4	a)	Discuss the transformations of stress strain relations in terms of engineering constants.	L3	CO2	8 M
	b)	Explain maximum strain theory for unidirectional lamina.	L3	CO2	7 M
		UNIT-III			
5		Derive stress strain relations for a lamina within the laminate.	L3	CO3	15 M
		OR			
6	a)	Explain about a laminate and different special cases of laminate.	L3	CO3	7 M
	b)	Compare various aspects of micro mechanics and macromechanics.	L3	CO3	8 M
		UNIT-IV			
7	a)	Discuss the possible failure modes in a composite.	L2	CO4	8 M
	b)	Discuss the phenomenon of inter laminar stresses.	L2	CO4	7 M
		OR			
8		Explain the terms micro buckling and tensile fibre failure.	L2	CO4	15 M