U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

July 2023 Semester End Main Examinations

Program: B.E. **Semester: VI**
Branch: Institutional Elective **Duration: 3 hrs.**
Course Code: 19CH6OECOM **Max Marks: 100**
Course: Composite Materials **Date: 07.07.2023**

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

			UNIT – I	*CO*	*PO*	Marks
1	a)		Discuss the general and thermal properties of ceramic materials.	*CO1*	*PO2*	**08**
	b)		Describe the synthesis of silicon carbide matrix using polymer pyrolysis method.	*CO2*	*PO6*	**12**
			UNIT – II			
2	a)		Elucidate the Sol-gel process for the formation of monolithic ceramics.	*CO2*	*PO6*	**10**
	b)		Distinguish between hot pressing and hot iso-static pressing processes.	*CO4*	*PO2*	**10**
			OR			
3	a)		Discuss the tape casting process for ceramic powder processing	*CO2*	*PO6*	**10**
	b)		Illustrate the types of chemical vapor deposition (CVD) process.	*CO2*	*PO6*	**10**
			UNIT – III			
4	a)		Analyze the mechano-chemical methods for the synthesis of mixed ceramic oxides.	*CO3*	*PO3*	**10**
	b)		Write briefly on self-healing composites and hybrid composites.	*CO3*	*PO3*	**10**
			UNIT – IV			
5	a)		Explain the master batch and compounding equipment used for reinforcement.	*CO4*	*PO2*	**10**
	b)		Evaluate the properties to be considered while designing a fiber reinforced composite.	*CO5*	*PO12*	**10**
			OR			

	6	a)	Explain the cold pressing process and the mechanism of sintering.	*CO5*	*PO12*	**10**
		b)	Discuss the industrial applications of ceramic matrix materials.	*CO5*	*PO12*	**10**
			UNIT – V			
	7	a)	Elaborate the pultrusion process for the manufacture of polymer matrix composites.	*CO6*	*PO7*	**10**
		b)	Discuss the applications of polymer composites in various industries.	*CO6*	*PO7*	**10**

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