CBCS SCHEME

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BAE405A

Fourth Semester B.E./B.Tech. Degree Supplementary Examination, June/July 2024
Additive Manufacturing

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.	What is the need for Additive Manufacturing? Explain the role of Reverse Engineering in AM.	10	L1	CO3
	b.	Distinguish between AM and CNC Machining.	10	L2	CO3
		OR			
Q.2	a.	Explain the eight steps in additive manufacturing process.	10	L2	CO2
	b.	Explain the material handling issues in Additive Manufacturing Process.	10	L2	CO3
		Module – 2			
Q.3	a.	Explain the manufacturing process using Stereo Lithography.	10	L2	CO3
	b.	Explain the Electron Beam Melting process. List its benefits and drawbacks.	10	L2	CO3
		OR			
Q.4	a.	Explain the significance of Bio-Extrusion additive manufacturing and list its merits and demerits.	10	L3	CO3
	b.	Explain the Fused Deposition Modelling process in detail.	10	L2	CO4
		Module – 3			
Q.5	a.	Explain the various processes involved in the LOM with relevant sketches.	10	L2	CO4
	b.	Explain the three dimensional printing process with relevant sketches.	10	L2	CO4
		OR			
Q.6	a.	List the benefits and drawbacks of Beam Deposition process.	10	L3	CO3
	b.	Write a note on different technologies in Direct Wire technologies.	10	L2	CO3
		Module – 4			
Q.7	a.	Explain the challenges faced in the selection of materials and methods for Aerospace application.	10	L2	CO4
	b.	Write a note on preparing CAS models to STL file and problem with STL files.	10	L3	CO3
		OR			
Q.8	a.	Explain the post processing difficulties faced in 3-D printing.	10	L3	CO4
	b.	Elucidate the steps involved in property enhancement using thermal and non thermal technique.	10	L2	CO4
		Module – 5			
Q.9	a.	Explain the different material processes in Additive Manufacturing.	10	L2	CO3
	b.	List the applications of AM in detail	10	L3	CO3
		OR			
Q.10	a.	Discuss the direct digital manufacturing and its future.	10	L2	CO3
	b.	Explain the different patterns prepared in AM process for investment casting.	10	L2	CO3

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