

Model Question Paper-1 with effect from 2022-23 (CBCS Scheme)

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Fourth Semester B.E. Degree Examination Subject Title Additive Manufacturing

TIME: 03 Hours

Max. Marks: 100

Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

Module -1			*Bloom's Taxonomy Level	Marks
Q.01	a	What is the Need for Additive Manufacturing? Explain its significance in Industry 4.0?	L1	10
	b	Describe Reverse Engineering and its role in Additive Manufacturing.	L2	10
OR				
Q.02	a	Write a brief note on the technological development of Additive manufacturing and Explain the classification of AM processes.	L1	10
	b	Explain the materials handling issues in Additive manufacturing process.	L2	10
Module-2				
Q. 03	a	Differentiate between the selective laser sintering process and stereo lithography with applications, benefits and drawback.	L3	10
	b	Explain the process of electron beam melting, List the advantages and disadvantages.	L2	10
OR				
Q.04	a	Explain the Fused Deposition Modelling process in detail in relevant sketches.	L2	10
	b	Explain the Significance of Bio-Extrusion additive manufacturing and List its merits and demerits.	L2	10
Module-3				
Q. 05	a	With neat sketch, Explain the three dimensional printing process.	L2	10
	b	Explain the various processes involved in the LOM with relevant sketches.	L2	10
OR				
Q. 06	a	Explain the different types of Direct Wire technologies.	L2	10
	b	Discuss the Beam deposition method and list its merits and demerits.	L2	10
Module-4				
Q. 07	a	Enumerate the guidelines for process selection in additive manufacturing process.	L2	10
	b	Write short notes on following: (i) Part building errors (ii) Errors in STL files (iii) STL file Manipulation	L3	10
OR				
Q. 08	a	Elucidate the steps involved in property in enhancement using thermal technique and non thermal technique.	L3	10
	b	Explain the post processing of additive manufacturing parts.	L2	10
Module-5				
Q. 09	a	Explain the various multiple materials processes.	L2	10
	b	Elaborate the applications of additive manufacturing in various sectors	L2	10
OR				
Q. 10	a	Discuss the direct digital manufacturing and the future of DDM.	L2	10
	b	Explain the different patterns prepared in the AM process for investment casting.	L2	10