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EAST POINT COLLEGE OF ENGINEERING & TECHNOLOGY
An Autonomous Institution Affiliated to Visvesvaraya Technological University (VTU) Belagavi

USN | | | | | | | | | | |

25MPD14C

First Semester M.Tech Degree Examination, April-2026

ADDITIVE MANUFACTURING TECHNIQUES

TIME:3 hrs. Max.Marks:100

Note: 1. Answer any FIVE full questions, choosing ONE question from each MODULE
2. M: Marks, L: Bloom's level,C: Course outcomes.

		Module-1	M	L	C
Q.1	a	Define additive manufacturing? List out advantages and disadvantages of additive manufacturing in detail.	10	L1	CO1
	b	Briefly explain various classification additive manufacturing Processes	10	L1	CO1
		OR			
Q.2	a	Describe Reverse Engineering and its role in additive manufacturing	10	L2	CO1
	b	Explain Computer aided design technology in detail. Differentiate between additive manufacturing and CNC	10	L2	CO1
		Module–2			
Q.3	a	Explain different steps in Generalized additive manufacturing process.	10	L2	CO1
	b	Explain Material handling and maintenance issues in additive manufacturing,	10	L2	CO1
		OR			
Q.4	a	Sketch and explain laser scan vat photo polymerization and its applications	10	L3	CO2
	b	Explain Photo polymerization and vector scan machine	10	L3	CO2
		Module–3			
Q.5	a	Derive an expression for QT so that we can determine the flow through a circular extrusion nozzle	10	L3	CO2
	b	What is the basic principal of Extrusion and explain material loading liquefaction	10	L2	CO3
		OR			
Q.6	a	Explain Extrusion AM module and CNC Pocket milling	10	L2	CO3
	b	What are materials used in Material jetting . List out the benefits and draw backs of material jetting.	10	L2	CO3
		Module–4			
Q.7	a	Describe any four AM unique design capabilities and give example	10	L3	CO3
	b	What are three ways that current designers are trained that are at odds with the concept of DFAM. Give example .	10	L3	CO4
		OR			
Q.8	a	Explain different AM technologies and IM tooling inserts with examples.	10	L2	CO3
	b	Explain direct AM injection molding and investment casting	10	L3	CO4

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		Module–5			
Q.9	**a**	What are benefits of using color in production of Medical models?. Give several examples where color can be beneficial	**10**	**L2**	**CO4**
	b	What are applications of AM in Aerospace and Automotive? Mention characteristics flavoring Automotive and Aerospace.	**10**	**L3**	**C04**
		OR			
Q.10	**a**	What AM materials are already approved for medical applications and for what types of application are they suitable	**10**	**L2**	**CO4**
	b	Explain the modals to development manufacturing Tissue engineering and Organ printing	**10**	**L3**	**CO4**

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