

CBCS SCHEME

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BME714A

Seventh Semester B.E./B.Tech. Degree Examination, June/July 2026

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.	Define Additive Manufacturing Process. Write the advantages of Additive Manufacturing over CNC machining.	10	L3	CO1	
	b.	Write a note on : i) Stereolithography ii) Rapid prototyping.	10	L3	CO1	
OR						
Q.2	a.	Write a note on 8 steps in Additive Manufacturing.	10	L3	CO1	
	b.	Explain the application areas of Additive Manufacturing.	10	L3	CO1	
Module – 2						
Q.3	a.	With a neat sketch, explain stereolithography process along with its application.	10	L2	CO2	
	b.	Explain briefly FDM process with its application advantages and disadvantages.	10	L2	CO2	
OR						
Q.4	a.	With a neat sketch, explain Electron beam melting process with its application.	10	L2	CO2	
	b.	Explain briefly Selective Laser Sintering Process with its application, advantages and disadvantages.	10	L2	CO2	
Module – 3						
Q.5	a.	Explain the technical challenges in 3D printing.	10	L2	CO3	
	b.	Explain the following : i) Ultrasonic consolidation ii) Laminated object manufacturing	10	L2	CO3	

OR					
Q.6	a.	Explain Beam Deposition process with its advantages and disadvantages.	10	L2	CO3
	b.	Explain Direct Write Technology.	10	L2	CO3
Module – 4					
Q.7	a.	Explain the selection method and challenges in selection for a part.	10	L2	CO4
	b.	Explain the following : i) STL file ii) STL file manipulation	10	L2	CO4
OR					
Q.8	a.	Explain post processing in Additive Manufacturing.	10	L2	CO4
	b.	Explain property enhancement using thermal and non-thermal technique.	10	L2	CO4
Module – 5					
Q.9	a.	Explain the application of Additive Manufacturing in Biomedical and General Engineering Industries.	10	L2	CO5
	b.	Explain Multiple-material manufacturing approaches in Additive manufacturing.	10	L2	CO5
OR					
Q.10	a.	Explain Direct Digital Manufacturing.	10	L2	CO5
	b.	Explain Additive Manufacturing Applications in Aerospace, Defense and Automobile Industry.	10	L2	CO5
