SNS College of Technology, Coimbatore-35.
(Autonomous)
B.E / B.Tech- Internal Assessment -I
Academic Year 2023-2024 (Odd Semester)
Seventh Semester
Aerospace Engineering
19ASZ401– 3D Printing for Space Components

A

Time: 1 ½ Hours **Maximum Marks: 50**

Answer All Questions

PART - A (5x 2 = 10 Marks)

		CO	Blooms
1.	What Are AM Parts Used for?	CO1	Rem
2.	What is Rapid Prototyping.	CO1	Und
3.	Why Use the Term Additive Manufacturing?	CO1	App
4.	What is the Variation from one AM Machine to Another?	CO2	Rem
5.	Mention any two materials used in FDM process	CO2	Und

PART B (2 x 13 =26 marks)

				CO	Blooms
6.	(a)	Discuss the impact of 3D Printing technology on Product development. Justify its usage.	13	CO1	App
		(or)			
	(b)	Explain 3D Printing process with a flowchart. What are the advantages and disadvantages of FDM process	13	CO1	Und
7.	(a)	Explain Maintenance of Equipment in AM	13	CO2	App
		(or)			
	(b)	Compare solid modelling, surface modelling and wireframe modelling. Explain how will you find the weight of a solid?	13	CO2	Und
8.	(a)	Discuss the impact of 3D Printing technology on in Aerospace components manufacturing	14	CO1	Rem
		(or)			
	(b)	Explain the SLA process with a neat sketch and write down the advantages and disadvantages of the process	14	CO2	Und

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Abbreviations: Rem- Remember: Und- Understand : App-Apply: Ana-Analyze: Eva-Evaluate: Cre-Create

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B

Time: 1 ½ Hours **Maximum Marks: 50**

Answer All Questions

PART - A (5x 2 = 10 Marks)

		CO	Blooms
1.	What is Additive manufacturing? Discuss 7 basic types of AM with example.	CO1	Und
2.	Differentiate between AM and CNC Machining.	CO1	Und
3.	What is Rapid tooling? How is it useful?	CO1	App
4.	Name any two slicing software available commercially.	CO2	Rem
5.	What are Metal and Hybrid Systems?	CO2	Rem

PART – B (2 x 13=26 Marks)

				CO	Blooms
6.	(a)	Discuss the Nomenclature of AM Machines.	13	CO1	Ana
		(or)			
	(b)	Explain the concept of Direct and Indirect AM .	13	CO1	Ana
7.	(a)	Discuss Computer-Aided Design Technology in AM.	13	CO2	Rem
		(or)			
	(b)	Discuss the Metal Systems in AM.	13	CO2	App
8.	(a)	Explain the process of Layer Manufacturing Process.	14	CO1	Ana
		(or)			
	(b)	List out the design for AM in aerospace industry.	14	CO2	Und

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