

Hall Ticket Number:

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Code No. : 16118 (G)

VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD**B.E. (CBCS) VI-Semester Main Examinations, January-2021****Additive Manufacturing & its Applications**

(Open Elective-V)

Time: 2 hours

Max. Marks: 60

*Note: Answer any NINE questions from Part-A and any THREE from Part-B***Part-A (9 × 2 = 18 Marks)**

Q. No.	Stem of the question	M	L	CO	PO
1.	Name commonly used terms of additive manufacturing under the context of industry 4.0.	2	1	1	1,5
2.	Give the classification of AM processes based on raw materials used.	2	2	1	1
3.	Why only photo-polymers are used as SLA process materials?	2	3	2	1,2
4.	What is the importance of milling process in solid ground curing?	2	2	2	1
5.	How cross-hatched patterns act as a support structure in case of LOM process?	2	2	3	1,2
6.	Why FDM process is so popular for desktop printing?	2	3	3	1,2
7.	Name the laser parameters that will affect the mechanical properties of the SLS parts.	2	2	4	1
8.	How the binder selection will takes place in printing materials like polymers, ceramics and metals?	2	2	4	1,2
9.	List the benefits of aerospace industry with additive manufacturing.	2	1	5	1
10.	What is the role of additive manufacturing in COVID-19 pandemic?	2	3	5	1,6,7
11.	List out various AM data formats. Explain any one format.	2	1	1	1
12.	How SGC process is faster than SLA process? Justify.	2	3	2	1,2
Part-B (3 × 14 = 42 Marks)					
13. a)	How do you perform checking and build-setup preparation operations in AM?	6	1	1	1,2
b)	What is the importance of post processing in AM? Briefly explain any one method.	8	2	1	1,2
14. a)	Compare and contrast the laser-based stereo-lithography systems and the solid ground curing systems. What are the advantages and disadvantages for each of the systems?	8	1	2	1,2
b)	Explain why two photo initiators are needed in liquid-based photo resins. Explain what these photo initiators do.	6	4	2	1,2

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