

Code No.: ME722PE

R20

H.T.No.

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CMR ENGINEERING COLLEGE : HYDERABAD

UGC AUTONOMOUS

IV-B.TECH-I-Semester End Examinations (Regular) - November- 2024

ADDITIVE MANUFACTURING

(MECH)

[Time: 3 Hours]

[Max. Marks: 70]

**Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**PART-A**

**(20 Marks)**

1. a) Define a prototype? [2M]
- b) Write any two applications in liquid based RP processes? [2M]
- c) Write the Applications of solid ground curing? [2M]
- d) Write the applications of SLA process? [2M]
- e) Write the LOM tools? [2M]
- f) Write the advantages of selective laser sintering (SLS) process? [2M]
- g) Name various RP soft wares? [2M]
- h) Write the features of mimics RP software? [2M]
- i) Define rapid prototyping? [2M]
- j) Write two applications of RP in coin industry? [2M]

**PART-B**

**(50 Marks)**

2. With example, explain the historical development of rapid prototyping technology? [10M]
- OR**
3. Explain about rapid proto typing process chain? [10M]
4. Explain the working principle of LOM with neat sketch? [10M]
- OR**
5. Explain about solid ground curing working principle? [10M]
6. Discuss the working principle of 3D printing machine? [10M]
- OR**
7. Explain different castings involved in rapid tooling method with neat sketch? [10M]
8. Discuss the consequences of building a valid and invalid tessellated models using STL file format? [10M]
- OR**
9. Explain the features of Velocity 2 and Rhino software's? [10M]
10. Explain the application of RP technology in Art, Archeology and architecture? [10M]
- OR**
11. What are the typical RP applications in aerospace industry? [10M]

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