



IV B.Tech I Sem Regular End Examination, Nov/Dec 2022

Additive Manufacturing (PE-II)

(MECH)

Time: 3 Hours.**Max. Marks: 70**

Note: 1. Question paper consists: Part-A and Part-B.

2. In Part – A, answer all questions which carries 20 marks.

3. In Part – B, answer any one question from each unit.

Each question carries 10 marks and may have a, b as sub questions.

PART- A**(10*2 Marks = 20 Marks)**

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|--|----|-----|-----|
| 1. a) What is Prototyping? | 2M | CO1 | BL1 |
| b) What are the indirect benefits of Rapid Prototyping? | 2M | CO1 | BL1 |
| c) How do you summarize layering technology? | 2M | CO2 | BL2 |
| d) Can you list the advantages and disadvantages of LOM? | 2M | CO2 | BL1 |
| e) Can you name models and specifications of 3DP machine? | 2M | CO3 | BL1 |
| f) How would you compare conventional tooling verse Rapid tooling? | 2M | CO3 | BL2 |
| g) Explain what is HP/GL file. | 2M | CO4 | BL2 |
| h) What can you say about 3D doctor RP software? | 2M | CO4 | BL2 |
| i) How do you apply Rapid Prototyping in jewelry industry? | 2M | CO5 | BL3 |
| j) What are the finishing processes used in Rapid Prototyping? | 2M | CO5 | BL1 |

PART- B**(10*5 Marks = 50 Marks)**

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|--|-----|-----|-----|
| 2 Explain what are phases of development leading to Rapid Prototyping | 10M | CO1 | BL2 |
| OR | | | |
| 3 a) How would you illustrate fundamental automated processes? | 5M | CO1 | BL2 |
| b) Explain what is Rapid Prototyping wheel. | 5M | CO1 | BL2 |
| 4 How do you summarize working process and principle of Fused Deposition Modeling (FDM)? | 10M | CO2 | BL2 |
| OR | | | |
| 5 Explain what is the working process of Solid Ground Curing (SGC) with a neat sketch | 10M | CO2 | BL2 |
| 6 Describe the working of Selective Laser Sintering (SLS) with a neat diagram? | 10M | CO3 | BL2 |

OR

- 7 a) Explain what is Arc spray metal tooling? 5M C03 BL2
b) State in your own words about direct AIM. 5M C03 BL3
- 8 Write about the STL file repairs? 10M C04 BL3
- OR**
- 9 a) Describe Mimics RP software? 5M C04 BL2
b) What can you say about STL view 3D data experts RP software? 5M C04 BL3
- 10 Discuss how would you apply RP in Engineering, Analysis and planning? 10M C05 BL4
- OR**
- 11 Discuss the applications of RP in Automotive industry? 10M C05 BL4

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CO - Course Outcome

BL - Blooms Taxonomy Levels