

Code No: 137AC

R16

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, July - 2021

ADDITIVE MANUFACTURING TECHNOLOGY

(Mechanical Engineering)

Time: 3 Hours

Max. Marks: 75

Answer any Five Questions  
All Questions Carry Equal Marks

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1. a) Explain the working steps in Rapid Prototyping. [7+8]  
b) What are the advantages of RP over conventional processes?
2. a) Explain the working principle of FDM process with neat sketch. [7+8]  
b) What are the advantages and disadvantages of FDM?
3. a) Explain indirect rapid tooling methods in detail. [7+8]  
b) What is direct metal tooling using 3DP explain?
4. a) Explain any two rapid prototyping software's in detail. [7+8]  
b) Explain the consequences of building valid and invalid tessellated models.
5. a) Explain RP applications related to complex medical surgeries and in bio medical applications. [8+7]  
b) Explain RP related to design of new components with an example.
6. a) What are the limitations of RP? [8+7]  
b) What is layering technology and laser scanning?
7. a) Explain the need for Rapid tooling and applications of LOM. [8+7]  
b) What is EOS direct tooling process?
8. a) Explain RP in GIS applications and arts and architecture. → [7+8]  
b) Explain RP in production of medical devices.

Land value.

Population density.

Geography.

Historical Buildings.

Cost of living

3D mapping