

R18

Code No: 157AB

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, July/August - 2022

ADDITIVE MANUFACTURING

(Mechanical Engineering)

Time: 3 Hours

Max.Marks:75

**Answer any five questions
All questions carry equal marks**

- 1.a) Explain prototyping fundamentals and historical development in detail.
- b) Describe the fundamental automated processes. [7+8]
2. Analyze rapid prototyping process chain with fundamental automated processes. [15]
3. Evaluate models, specifications, working principle and process of Solid Ground Curing (SGC). [15]
4. Explain models, specifications, working principle and process of Fused Deposition Modeling (FDM). [15]
5. Discuss process, working principle, applications, advantages and disadvantages of three dimensional printing (3DP). [15]
6. Explain the classification of rapid tooling in detail. [15]
- 7.a) Explain STL file Repairs, generic solution, other translators and newly proposed formats.
- b) Analyze the features of various RP software's of View Expert and 3-D View. [8+7]
- 8.a) Discuss the rapid prototyping applications in engineering, analysis and planning?
- b) Explain visualization of biomolecules using rapid prototyping. [8+7]

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