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**GIET UNIVERSITY, GUNUPUR – 765022**  
**M. Tech (Second Semester Examinations) – October' 2021**  
**MPEMT2031 – RAPID MANUFACTURING PROCESSES**  
 (Manufacturing Technology)

Time: 2 hrs

Maximum: 50 Marks

(The figures in the right hand margin indicate marks)

**PART – A**Q.1. Answer **ALL** questions

(2 x 10 = 20)

- What is Rapid prototyping? State the need of Rapid prototyping in context to batch production
- What are advantages of FMS over Conventional manufacturing process?
- Write any two advantages and the limitations of Rapid prototyping process?
- What do you mean by PLC?
- Define the process of selective powder binding process.
- Illustrate the need of Slicing technique in Rapid prototyping?
- State some applications of Extrusion-Based Processes.
- Differentiate between Conventional Tooling and Rapid Tooling.
- Explain Part building errors in SLA.
- What are the 3 stages of reverse engineering?

**PART – B****(6 x 5 = 30 Marks)**Answer **ANY FIVE** questions

Marks

- With a neat diagram explain Stereo lithography. (6)
- Explain the mechanism of Photo polymerization in RP Processes. (6)
- Explain the process of conversion of CAD data into STL file. (6)
- What are the principles behind SLA process and briefly explain the materials used in SLA process? (6)
- Write short notes on: (6)
  - Powder Bed Fusion Processes
  - Extrusion-Based RP Systems.
- Briefly explain methodologies and Techniques of Reverse Engineering (RE). (6)
- Write short notes on Pre-processing, processing and post-processing errors (6)

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