

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
ME – SEMESTER – III (New) • EXAMINATION – WINTER - 2020

Subject Code: 3730809

Date: 02/01/2021

Subject Name: Rapid Prototyping

Time: 10:30 AM TO 12:30 PM

Total Marks: 56

Instructions:

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain the need for Rapid Prototyping **07**
(b) Differentiate SLA and SLS in Rapid prototyping **07**
- Q.2** (a) Explain Process Management and its benefits **07**
(b) Narrate Laminated Object manufacturing in detail with a neat sketch. **07**
- Q.3** (a) Describe the role of RP in product development. **07**
(b) Explain the procedure of slicing with flowchart **07**
- Q.4** (a) Compose the principles behind stereo litho sintering process. Briefly explain the materials used in stereo litho sintering. **07**
(b) Discuss benefits of Computer Integrated Manufacturing **07**
- Q.5** (a) Discuss the principal of various types of sensors with its application. **07**
(b) Differentiate soft tooling and hard tooling. Compare direct tooling and indirect tooling. **07**
- Q.6** (a) List the various types of solid models and explain constructive solid geometry models with the advantages and disadvantages. **07**
(b) Describe 3D printing process with a neat sketch **07**
- Q.7** (a) Explain the Ballistic particle manufacturing with neat sketch. **07**
(b) Explain the different phases of FEA and enlighten the concept of discretization with example. **07**
- Q.8** (a) What are the materials suitable for FDM process? **07**
(b) Explain with an example the application of RP in Automotive industry **07**
