

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**ME – SEMESTER IV (NEW) – • EXAMINATION – WINTER 2016**

**Subject Code: 740801**

**Date: 26/10/2016**

**Subject Name: Rapid Prototyping and Tooling**

**Time: 02:30 pm to 05:00 pm**

**Total Marks: 70**

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define “prototyping” and write its applications. **07**  
(b) Write the difference between product development cycle and product life cycle. **07**
- Q.2** (a) Explain close loop and open loop control system in CNC. **07**  
(b) Explain any two methods which are use to acquire data points in reverse engineering. **07**
- OR**
- (b) Enlist seven typical applications of rapid prototyping technology. **07**
- Q.3** (a) What is feature based modeling? State the advantages and disadvantages. **07**  
(b) Write the short note on spatial decomposition models. **07**
- OR**
- Q.3** (a) Write the short note on wire-frame models. **07**  
(b) Enlist the types of sensors use in robots and explain any one in detail. **07**
- Q.4** (a) Write the guide lines for “design for manufacturing”. **07**  
(b) Explain the virtual reality and augmented reality with examples. **07**
- OR**
- Q.4** (a) Write a short note on “design for assembly”. **07**  
(b) Enlist the available tools for computer-aided engineering. **07**
- Q.5** (a) List the various solid and liquid base rapid prototyping processes and explain any two of them. **07**  
(b) Explain indirect rapid tooling process in detail. **07**
- OR**
- Q.5** (a) Write the short note on laminated-object manufacturing with neat sketch. **07**  
(b) State the benefits of product data management system. **07**

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