

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VIII EXAMINATION – SUMMER 2016

Subject Code: 183401

Date: 18/05/2016

Subject Name: Rapid Manufacturing

Time: 10:30 AM to 01:00 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) What are the general guidelines to be followed for implementing Concurrent Engineering? Explain. **07**
- (b) What are the tools and techniques of Concurrent Engineering? List the limitations of CE. **07**

- Q.2** (a) Differentiate between Conventional Manufacturing versus Concurrent Manufacturing Process. **07**
- (b) Discuss how to integrate Concurrent Engineering tools in Product Development. **07**

OR

- Q.2** (b) What are the tasks and talents to be considered in Concurrent Engineering for Product Development? **07**
- Q.3** (a) List essential factors of Product Design. Explain Design for Manufacture (DFM) with respect to CE. **07**
- (b) Explain Taguchi design method for robust design. Take some examples. **07**

OR

- Q.3** (a) Discuss the evolution of RP system indicating the history & their growth in the Manufacturing sector. **07**
- (b) Explain the principle and process details in Stereo Lithography Systems with neat sketch. Discuss the merits and demerits of stereo lithography system **07**
- Q.4** (a) Discuss about the Laminated Object Manufacturing (LOM) operation and its materials. **07**
- (b) With neat sketch explain the Fusion Deposition Modeling (FDM) and its applications. **07**

OR

- Q.4** (a) With diagram explain the operation principle and its applications of Solid Ground Curing. **07**
- (b) Sketch Laser Engineered Net Shaping (LENS) and explain the principle and applications. **07**
- Q.5** (a) Write notes on the applications of RP&T in the following fields : **07**
- (1) Medical field (2) Automotive engineering (3) Electronic industries
(4) Architecture.

- Q.5** (b) Describe 3D printing process with a neat sketch. **07**

OR

Q.5 (a) What is rapid tooling? Explain with one example.

07

Q.5 (b) Write about product data Management.

07