Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY M. E. - SEMESTER – I • EXAMINATION – WINTER • 2013

Subject code: 712804N Date: 30-12-0213 **Subject Name: Rapid Prototyping and Tooling** Time: 10.30 am - 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) Discuss the design as a strategy to win international market. 07 Briefly explain about the rapid manufacturing technologies 07 **Q.2** (a) Explain the product development cycle with a block diagram. **07** What is concurrent engineering? Explain it in detail. **07** OR **(b)** Discuss the influence of innovations on product development in detail. **07** 0.3 (a) Discuss the role of CAD/CAM in manufacturing. 07 Write a detailed note on design for manufacture. **07 (b)** OR Write a detailed note on design for assembly. Q.3 07 (a) Explain the virtual prototyping and testing technology. 07 **(b) Q.4** List the different sensors used in robots and explain any two of them. List the **07** applications of robotics in different engineering industries. (b) Explain the importance of FEA and its applications in engineering. Discuss the 07 different steps of FEA in detail. OR **Q.4** (a) Explain the importance of geometric modeling. State the various geometric **07** models and explain any one of them. (b) Discuss the features of CNC machine tool and CNC programming in brief. **07** Explain the different types of CAPP systems. 0.5 07 (a) What is Rapid Prototyping? Discuss its benefits and applications. 07 OR (a) Discuss about the computer integrated manufacturing in brief. Q.5 07 **(b)** Explain one of Rapid prototyping techniques in detail. 07
