

GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. Sem. – IInd - Examination – June/July- 2011
Subject code: 1722407

Subject Name: CAD/CAM/CAE application in Mould / Tool Design

Date: 29/06/2011

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) Explain how a 3-Dimensional product is formed by using Rapid proto typing process of Selective Laser Sintering techniques? With neat sketch. **07**
- (b) Distinguish between 3 - Dimensional Surface modeling & Solid modeling with models. **07**
- Q.2** (a) Explain in brief about the CNC Wire EDM working principle, benefits and applications. **07**
- (b) Explain in brief about the CNC Milling Machine working principle. How it is helpful to manufacturing Plastic Moulds? **07**
- OR**
- (b) Write the conventional and conversational CNC format for Canned Turning operation and Canned Facing operation. **07**
- Q.3** (a) Define Flexible Manufacturing System. Write the types of FMS layouts. Explain in brief about any one FMS layout. **07**
- (b) Define Computer Integrated Manufacturing. Write the computerized elements of a CIM system with neat sketch. **07**
- OR**
- Q.3** (a) Explain the benefit of Computer Aided Design. **07**
- (b) Define Computer Aided Manufacturing. Explain the Machining processes are done with the help of CAM. **07**
- Q.4** (a) Define Coordinate Measuring Machines. Write the applications and types of CMM. Explain about Cantilever CMM in brief. **07**
- (b) Explain in brief about Fused Deposition Modling Prototype Technology to develop a 3 D model as Thermoplastics as a base material. **07**
- OR**
- Q.4** (a) Define Reverse Engineering. Explain how it is helpful to construct a 3 D Model. **07**
- (b) Write about cutting tools for CNC Turing used in Mould Manufacturing. **07**
- Q.5** (a) Write short notes about Flow Analysis and Warpage Analysis. **07**
- (b) Write short notes about Cooling Analysis and Shrinkage Analysis. **07**
- OR**
- Q.5** (a) Define Finite Element Analysis. Write short notes about Pressure Analysis. **07**
- (b) Explain how Mould flow analysis will help to develop Injection Moulds. **07**
