

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER – II • EXAMINATION – WINTER • 2014****Subject code: 1722402****Date: 03-12-2014****Subject Name: Plastics mould Manufacturing Technology****Time: 02:30 pm - 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) Write short note on (a) Advantages of CNC machines over conventional machines. **07**
(b) Explain various qualities of good mould design **07**
- Q.2** (a) What is rapid prototyping? Explain any two methods with neat sketches **07**
(b) What is cutting tool? Explain the different materials used for manufacturing of cutting tools? **07**
- OR**
- (b) Define Lathe and explain the operations that can be performed in CNC lathe.. **07**
- Q.3** (a) What is heat treatment? Explain different surface hardening processes. **14**
- OR**
- Q.3** (a) What is milling? Explain the role of CNC milling in mould manufacturing **14**
- Q.4** (a) Why is steel considered to be an ideal materials for construction of mould? Explain. **07**
(b) Explain the principle and operations of CMM **07**
- OR**
- Q.4** (a) What are the advantages and applications of CNC EDM? **07**
What are the advantages and applications of CNC wire cut EDM?
(b) Write about the inspection and quality control of moulds. **07**
- Q.5** (a) Explain the programmable axes of CNC vertical and horizontal spindle machining centers and CNC turning centers with neat sketches **07**
(b) Write about Hydro copying and vacuum hardening **07**
- OR**
- Q.5** (a) Explain the following with neat sketch (i) Stereography (ii) Fused Deposition Modeling. **07**
(b) Explain the pantograph engraving method with neat sketch. **07**
