

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2014****Subject code: 1722402****Date: 18-06-2014****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) Explain the following. (i) Cryogenic Heat Treatment (ii) Hard Chrome Plating (iii) Nickel Plating. **07**
- (b) Describe the various machining processes employed for manufacturing core & cavities in a modern tool room. **07**

- Q.2** (a) What are the different coordinate systems? Explain with neat sketches. Explain the part programming structure of CNC Milling with examples **07**
- (b) Write short notes on (i) Part programming (ii) Canned cycle (iii) Machine cycles **07**

OR

- (b) Why is steel considered to be an ideal material for construction of mould? Explain. **07**
- Q.3** (a) What is cutting tool? Explain the different materials used for manufacturing of cutting tools. **07**
- (b) What are the factors to be considered while estimating mould cost? Explain with suitable examples. **07**

OR

- Q.3** (a) Write in detail about mould polishing techniques **07**
- (b) Explain Chemical Etching and its applications in mould manufacturing **07**
- Q.4** (a) Explain the EDM process and its working principle with its applications **07**
- (b) Write about Hydro Copying and Vacuum Hardening **07**

OR

- Q.4** (a) Define Lathe and explain the operations that can be performed in CNC Lathe **07**
- Q.4** (b) Explain the following with neat sketch. **07**
- (i) Stereolithography (ii) Fused Deposition Modeling
- Q.5** (a) Explain the principle and operation of CMM **07**
- (b) Explain about tool room measuring instruments and their application in mould making. **07**
- Q.5** (a) Explain the part programming structure of CNC Turning with examples. **07**
- (b) Explain the working principle of NC machine and enumerate its advantages and disadvantages. **07**
