

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VIII (NEW) - EXAMINATION – SUMMER 2018****Subject Code: 2182310/2182313****Date: 02/05/2018****Subject Name: Mold Manufacturing Technology(Departmental Elective - III)****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) List the non ferrous metals employed in the mold making. Explain about Zinc alloys. **03**
- (b) List the reasons for non-metallic materials used for mold. **04**
- (c) Explain about elastomeric mold materials. **07**
- Q.2** (a) List the basic materials used polishing for the mold. **03**
- (b) Explain about Role and Responsibility of mold designer. **04**
- (c) Explain the components of CNC machines. **07**
- OR**
- (c) List the properties of steel should possess for the mold construction. **07**
- Q.3** (a) Define Heat Treatment. Explain about carburizing in brief. **03**
- (b) Define Lathe. Explain in brief about Turning and Facing operation of Lathe. **04**
- (c) What is Chemical Etching? what is the application of it in mold manufacturing? **07**
- OR**
- Q.3** (a) Define Milling. Give the classification of Milling operation. **03**
- (b) Explain Vacuum Hardening Process. **04**
- (c) Explain mold assembly procedure in detail. **07**
- Q.4** (a) Short Note: CMM(Coordinate measuring machines) **03**
- (b) In modern tool room which type of machining operation employed for making core and cavities? **04**
- (c) Explain About EDM process and its working principle with neat sketch. **07**
- OR**
- Q.4** (a) List the basic process steps of proto typing. **03**
- (b) What is Rapid proto typing? List the various methods of Rapid prototyping. **04**
- (c) What is cutting tools? List the characteristic of ideal cutting tools. **07**
- Q.5** (a) List the common alloying elements in the steel. **03**
- (b) Draw the line diagram of optimistic job planning for mold making. **04**
- (c) Compare: CNC machines with conventional machines. **07**
- OR**
- Q.5** (a) List the work holding device used for Lathe. Explain any one. **03**
- (b) Short note: Cryogenic Heat treatment. **04**
- (c) Explain part programming structure of CNC milling with examples. **07**

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