

**GUJARAT TECHNOLOGICAL UNIVERSITY****M. E. - SEMESTER – I • EXAMINATION – WINTER 2012****Subject code: 712403N****Date: 12-01-2013****Subject Name: Plastics Mould & Product Design****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 different mould design requirements. **07**  
(b) Explain the steps in manufacturing of shouldered guide pillar with neat sketches. **07**

- Q.2** (a) Define ejection system and explain the types with neat sketches. **07**  
(b) Define and explain different mould temperature controlling methods. **07**

**OR**

- (b) Explain different cam actuation systems of automatic injection moulds. **07**

- Q.3** (a) Explain injection and stretch blow moulds with suitable sketch. **07**  
(b) Write about the heating systems in compression moulding. **07**

**OR**

- Q.3** (a) Explain compression mould and its types with neat sketches. **07**  
(b) Explain plunger transfer and screw transfer moulding with neat sketches. **07**

- Q.4** (a) Explain the plastics product wall thickness considerations. **07**  
(b) Write about designing with plastics for load bearing applications. **07**

**OR**

- Q.4** (a) Explain about the design considerations of Radii, fillets, ribs and bosses in plastic products. **07**  
(b) Write short notes on (i) Nearness of holes to each other and side wall **07**  
(ii) Fits & Tolerances in plastics product design.

- Q.5** (a) Write about the design of integral hinges, hinges and snap fits. **07**  
(b) Write short notes on (i) Surface treatments **07**  
(ii) Relieving moulding stresses around inserts.

**OR**

- Q.5** (a) Explain any two rapid prototyping methods with neat sketches. **07**  
(b) Write short notes on (i) Process variables vs Product design **07**  
(ii) Shrinkage vs Tolerance.

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