

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGINEERING – SEMESTER VII– • EXAMINATION – SUMMER • 2014

Subject Code: 372301**Date:10/06/2014****Subject Name: Plastic Product Design****Time: 10:30 am – 1:00 pm****Total Marks: 70****Instructions:**

1. Attempt all five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Each question carry equal marks (14 marks)

- Q.1** (a) Give the suitable plastic material for the given plastic product (1) Contact lens (2) Disposable tray (3) Hot water pipe (4) Urine bag (5) Car bumper (6) Electronic fuse (7) Overhead tank **07**
- (b) Explain the role of wall thickness in designing plastic products. **07**
- Q.2** (a) Explain steps for preliminary product design in detail. **07**
- (b) Discuss short term & long term property concept with respect to product design. **07**
- OR
- (b) Describe general concept of process selection used in product design. **07**
- Q.3** (a) Discuss various factors which affects on product design. **07**
- (b) Describe general concept of material selection used in product design. **07**
- OR
- Q.3** (a) Describe the basic concepts of product design. **07**
- (b) Explain Compression Molding is more preferable for FRP products. **07**
- Q.4** (a) List the plastic materials widely used for gear. Explain why they are used. **07**
- (b) Explain radii and fillet design feature for plastic products. **07**
- OR
- Q.4** (a) Explain importance of gate location for plastic products. **07**
- (b) Explain the parameters which are considered when designing with inserts. **07**
- Q.5** (a) With respect to product design, compare Extrusion and Calendering process. **07**
- (b) Explain importance of ribs and bosses with figure in designing of a plastic product. **07**
- OR
- Q.5** (a) Write short note on “undercut”. **07**
- (b) Write short note on design considerations for designing holes of a plastic product. **07**
