

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

Subject Code: 372301**Date: 28-11-2014****Subject Name: Plastic Product Design****Time: 10:30 am - 01:00 pm****Total Marks: 70****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. English version is considered to be Authentic.

- Q.1** (a) Give the suitable plastic material for the given plastic product (1) Business housing machine (2) Plastic table (3) Soft drink bottle (4) Bullet proof glass (5) Shoe sole (6) Dinner ware (7) Bearing **07**
- (b) Describe the basic concepts of product design. **07**
- Q.2** (a) Define product design and explain the factors which affect it. **07**
- (b) Write preliminary product design steps and explain it. **07**
- OR**
- (b) Explain long term property concept with respect to product design. **07**
- Q.3** (a) Write short note on radii and fillet of a plastic product. **07**
- (b) Explain importance of ribs and bosses with figure in designing of a plastic product. **07**
- OR**
- Q.3** (a) Discuss the various gate locations with figure in designing of a plastic product. **07**
- (b) Write short note on “undercut”. **07**
- Q.4** (a) Write short note on design considerations for designing holes of a plastic product. **07**
- (b) Explain how wall thickness affects in designing of plastic product. **07**
- OR**
- Q. 4** (a) Describe General concept of process selection used in product design. **07**
- (b) Explain various threads used in plastic products with figure. **07**
- Q.5** Design a 50 cm internal diameter pipe for gas supply with respect to material selection and process selection. Justify your answer using conventional plastic product design procedure. Draw neat sketch of the product in support of your justification. **14**
- OR**
- Q.5** Design a seal for pump used in chemical industry with respect to material selection and process selection. Justify your answer using conventional plastic product design procedure with neat sketch of the product. **14**
