

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

## GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA ENGG.- VII<sup>th</sup> SEMESTER-EXAMINATION – JUNE/JULY- 2012

Subject code: 372301

Date: 28/06/2012

Subject Name: Plastic 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.
4. English version is considered to be Authentic

- Q.1** (a) Describe detail procedure to design any domestic plastic product of your choice. **14**
- Q.2** (a) List & explain the factors affecting product design. **07**  
(b) Explain the general design consideration related to wall thickness. **07**  
**OR**  
(b) List the various steps of preliminary product design. **07**
- Q.3** (a) Explain the design consideration of rib & bosses used to reinforce the product **07**  
(b) Write short note on 'undercut'. **07**  
**OR**
- Q.3** (a) Define & explain the weld line & thread. **07**  
(b) Give definition, significance & design consideration of radii & fillet in product design. **07**
- Q.4** (a) Explain the short term & long term properties used for plastic product design. **07**  
(b) Discuss the material selection by properties comparison for overhead tank. **07**  
**OR**
- Q. 4** (a) Discuss the material selection procedure for any engineering product of your choice. **07**  
(b) Give the suitable plastic material for the given plastic product. **07**  
1) Crockery 2) Electric switch 3) water bottle 4) Buttons  
5) Pen bodies 6) Plastic chair 7) Compact disk.
- Q.5** (a) Discuss the process selection procedure for plastic coating on wire. **07**  
(b) Discuss various specifications of any one plastics processing machine of your choice that would affect product design. **07**  
**OR**
- Q.5** (a) Discuss process & raw material selection for tooth brush. **07**  
(b) List various specialized properties required in products for variety of applications & suggest suitable plastics materials for each one of the specialized properties. **07**

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