

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGINEERING – SEMESTER VII– • EXAMINATION – WINTER 2013

Subject Code: 372301**Date: 27/11/2013****Subject Name: Plastic Product Design****Time: 02:30 PM TO 5:00 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. Each question carry equal marks (14 marks)

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|-------------|-----|---|-----------|
| Q.1 | (a) | Write and discuss preliminary product design steps in detail. | 07 |
| | (b) | Describe general concept of material selection used in product design. | 07 |
| Q.2 | (a) | With respect to product design, compare Blow Molding and Rotational Molding process. | 07 |
| | (b) | Discuss short term & long term property concept with respect to product design. | 07 |
| | | OR | |
| | (b) | Discuss various factors which affects on product design. | 07 |
| Q.3 | (a) | Explain radii and fillet design features for plastic products. | 07 |
| | (b) | Describe general concept of process selection used in product design. | 07 |
| | | OR | |
| Q.3 | (a) | Explain product reinforcement through product design. | 07 |
| | (b) | Why Compression Molding is more preferable for FRP products. | 07 |
| Q.4 | (a) | Which plastic materials are widely used for gear? Why? | 07 |
| | (b) | Explain importance of gate location for plastic products. | 07 |
| | | OR | |
| Q. 4 | (a) | Explain the role of wall thickness design feature in designing plastic products. | 07 |
| | (b) | Explain the parameters which are considered when designing with inserts. | 07 |
| Q.5 | (a) | Design a 5 inch diameter FRP pipe with respect to material selection and process election. Justify your answer using conventional plastic product design procedure. Draw neat sketch of the product in support of your justification. | 07 |
| | (b) | Explain importance of ribs and bosses for product design. | 07 |
| | | OR | |
| Q.5 | (a) | List special properties of any seven plastic materials. | 07 |
| | (b) | Explain different types of holes with help of figure. | 07 |
