

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGINEERING – SEMESTER-VII• EXAMINATION – SUMMER • 2015

Subject Code: 372301**Date: 13-05-2015****Subject Name: Plastic Product Design****Time: 02:30 PM TO 05:00 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) State and explain various steps involved in product design. | 07 |
| | (b) Suggest two materials for given plastic products : (1) Gear (2) Car lamp housing (3) TV cabinet (4) Mobile body (5) boat hull (6) crate (7) pen | 07 |
| Q.2 | (a) State and explain various factors affecting product design. | 07 |
| | (b) Compare various plastic processes with respect to hollow product design. | 07 |
| | OR | |
| | (b) Explain product design considerations with respect to wall thickness. | 07 |
| Q.3 | (a) State and explain material selection procedure considering short term and long term properties. | 07 |
| | (b) Explain design criteria for fillets and radii with neat sketch. | 07 |
| | OR | |
| Q.3 | (a) Write short note on Design considerations of molded holes. | 07 |
| | (b) Compare various plastic processes with respect to design of plastic glass. | 07 |
| Q.4 | (a) List out various materials for transparent product applications. Discuss merits and demerits of these materials. | 07 |
| | (b) Which material do you suggest for hinge properties? Explain with valid reasons. | 07 |
| | OR | |
| Q. 4 | (a) Describe the process selection procedure for making wash basin. | 07 |
| | (b) List out various materials for chemical process industries. State advantages and disadvantages of them. | 07 |
| Q.5 | (a) Design any one part with respect to material selection and process selection. Justify the answer using product design considerations. (1) Pump Impeller (2) Camera lens (3) Comb. | 14 |
| | OR | |
| Q.5 | (a) Explain design criteria for undercuts. | 07 |
| | (b) List out any seven plastics with specialized properties suitable for automobile industries. | 07 |
