

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2022

Subject Code:3172318

Date:16-01-2023

Subject Name:Plastics Product Design

Time:10:30 AM TO 01:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

	MARKS
Q.1 (a) What is product design? What are the roles of a product designer?	03
(b) What are the primary concepts involved in design?	04
(c) Explain the essential factors of product design.	07
Q.2 (a) What is tolerance? Explain.	03
(b) Explain briefly external and internal threads.	04
(c) Explain the factors to be considered while designing the product.	07
OR	
(c) Explain about gate size & location.	07
Q.3 (a) What are the limitations of plastic materials?	03
(b) Compare different plastic materials.	04
(c) Explain the basis of material selection.	07
OR	
Q.3 (a) What is an undercut? Explain.	03
(b) What are the reasons for failure of a plastic product?	04
(c) Explain long term and short term properties of plastics.	07
Q.4 (a) What are the limitations of two plate moulds?	03
(b) What is compression moulding? Explain briefly.	04
(c) Compare different plastic processing methods with respect to product size.	07
OR	
Q.4 (a) What are the disadvantages of injection moulding?	03
(b) What is rotational moulding? Explain briefly.	04
(c) Explain the product design features related to injection moulding.	07
Q.5 (a) Define: i) Insert; ii) Hinges; iii) Molded holes;	03
(b) What are the properties required for Injection molded thermoplastic gears.	04
(c) Explain the procedure for designing pipes.	07

OR

- Q.5** (a) Define: i) Weld line; ii) Warpage; iii) Flash; **03**
(b) Explain briefly lettering and embossing. **04**
(c) Explain the procedure for designing gears. **07**
