

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VII EXAMINATION – WINTER 2025

Subject Code: 3172511

Date:20-11-2025

Subject Name: Product Design and value Engineering

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.

- Q.1** (a) What is product design? **03**
(b) Explain Need of PDVE for any industry. **04**
(c) Discuss characteristics of successful product development with examples. **07**
- Q.2** (a) What is design and redesign concept? **03**
(b) Discuss challenges of product development. **04**
(c) Explain function analysis and design for safety in product design. **07**
- OR**
- (c) Discuss design for assembly and manufacturing. **07**
- Q.3** (a) What is product specifications? **03**
(b) Discuss concept deferment in product design. **04**
(c) Write note: Robust product and design. **07**
- OR**
- Q.3** (a) What id product planning? **03**
(b) Explain product development process in industry. **04**
(c) Write note: product analysis. **07**
- Q.4** (a) What is value engineering? **03**
(b) Discuss importance of value engineering for cost reduction of any product. **04**
(c) Write note: Various types of Values in VE. **07**
- OR**
- Q.4** (a) What is VALUE in VE? Give examples. **03**
(b) Write note: material selection for product. **04**
(c) How will you do VE for the following product: Bicycle.. **07**
- Q.5** (a) What is primary function of any product in VE? **03**
(b) Write note: Linkage between VE and product design.. **04**
(c) Give your suggestion related to VE for Office chair. **07**
- OR**
- Q.5** (a) Why sometimes good products fail in market? **03**
(b) Write note: VE scope for any ceramic industry. **04**
(c) Discuss problems and difficulties to implement VE in any industry. **07**
