

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2024

Subject Code:3172511

Date:30-11-2024

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 are various types of product. 03
(b) What is product design? 04
(c) Explain product design and development process. 07
- Q.2** (a) What is product life cycle? 03
(b) What are characteristics of good product design? 04
(c) Discuss cost of product development and its challenges. 07
- OR**
- (c) Write note: Design for function techniques. 07
- Q.3** (a) What is engineering ethics to society? 03
(b) Write note: Design for safety. 04
(c) Discuss design for manufacturing and assembly in detail. 07
- OR**
- Q.3** (a) What is evaluation of product? 03
(b) Write note: product specifications 04
(c) What is generic development process? 07
- Q.4** (a) What is concept development? 03
(b) Write note: Product planning process. 04
(c) Discuss challenges in product development process. 07
- OR**
- Q.4** (a) What is product analysis? 03
(b) What are tools and charts used in product analysis? Explain. 04
(c) Discuss material selection and sources of materials in product design. 07
- Q.5** (a) Define Value 03
(b) What are various types of values in VE? 04
(c) Discuss design using virtual prototyping. 07
- OR**
- Q.5** (a) What is voice of customer in design? 03
(b) WRITE NOTE: Value engineering tools and techniques. 04
(c) How you use VE principles in Designing a ROBUST CHAIR? Discuss. 07
