

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code:3172511

Date:22-05-2024

Subject Name:Product Design and value Engineering

Time:02:30 PM TO 05:00 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 Fast diagram?	03
	(b) Competitive strategy for new product.	04
	(c) Discuss Factors affecting Product design and development.	07
Q.2	(a) What is design for production?	03
	(b) Explain Reduction of cost of components.	04
	(c) What is concept development? Explain.	07
	OR	
	(c) What is Product life cycle? Explain each stages with example.	07
Q.3	(a) Discuss considerations of Human Aspects in Value Engineering?	03
	(b) Explain the following with reference to identifying customers' needs: - Gathering raw data from customers.	04
	(c) Discuss: Relative Importance of customer need.	07
	OR	
Q.3	(a) Define: (1) Economic Value (2) Social Value (3) Religious Value.	03
	(b) Differentiate target specification and final specification of product.	04
	(c) You are appointed as Product design engineer for CNC manufacturing company, Suggest your views on better product of CNC machine and explain what are the factors to be consider for value engineering implementation.	07
Q.4	(a) What AMF development Process?	03
	(b) Discuss in brief Concept Development Techniques. (Front End Process)	04
	(c) Discuss: (i) Political Value and Social Value (ii) Plan value and Time value.	07
	OR	
Q.4	(a) Explain Rigidity and Creativity.	03
	(b) What are the key costs of the product? Explain.	04
	(c) Explain how to determine and evaluate value with suitable example.	07
Q.5	(a) What is the importance of product specifications?	03
	(b) Discuss steps involved in product planning process.	04
	(c) Discuss function evaluation techniques.	07
	OR	
Q.5	(a) What is Risk assessment?	03
	(b) Discuss: (1) Contractual training (2) Informal training.	04
	(c) You are appointed as a senior product design engineer for a four wheeler automobile manufacturing company and your task is to design car dashboard, what are the key factors you consider for better design and valued design.	07