

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code:2181913

Date:22-11-2024

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 importance of product specifications?	03
	(b) Explain the Objective of Product Design & Development	04
	(c) Distinguish Product Development Cycle and Product Life Cycle.	07
Q.2	(a) What is AMF development Process?	03
	(b) Define: Value, Value Analysis and Value Engineering in detail	04
	(c) What is Engineering Design? Explain the steps of design process.	07
	OR	
	(c) Explain in Detail the general guidelines of design for manufacturing and assembly.	07
Q.3	(a) Discuss duration of cost of product development.	03
	(b) Explain: Rapid Prototyping & Creativity.	04
	(c) Explain Function Analysis system techniques (FAST) in detail.	07
	OR	
Q.3	(a) Explain Advantage of Value Engineering.	03
	(b) What is life cycle cost? State its limitations.	04
	(c) What are the steps involved in initiating Value Engineering Programme?	07
Q.4	(a) What do you mean by voice of customer? Define: Customer need model.	03
	(b) What are the evaluation methods for material selection? Explain briefly.	04
	(c) State and Explain the various techniques of concept development.	07
	OR	
Q.4	(a) Write a short note on: Reduction of cost of Assembly.	03
	(b) Discuss steps involved in product planning Process.	04
	(c) Explain the Design for Rigidity with neat sketches in detail.	07
Q.5	(a) Define: 1) Economic Value, 2) Social Value, 3) Religious Value	03
	(b) What is Design for Production?	04
	(c) Discuss in detail as to how will you incorporate environmental concerns into product design?	07
	OR	
Q.5	(a) What are the various steps of value analysis for a job plan?	03
	(b) Explain Consumer Product Structure.	04
	(c) What is Cost? Explain the Procedure for Calculating the life cycle cost.	07
