Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE- SEMESTER–VIII (NEW) EXAMINATION – WINTER 2020

Subject Code:2181913   **Date:19/01/2021**
Subject Name:Product Design And Value Engineering
Time:02:00 PM TO 04:00 PM   **Total Marks: 56**

Instructions:
1. **Attempt any FOUR questions out of EIGHT questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Discuss duration and cost of product development.	**03**
	(b)	Explain the general guidelines for product design of maintainability.	**04**
	(c)	List and explain characteristics of successful product development.	**07**
Q.2	**(a)**	Define value analysis and value engineering.	**03**
	(b)	What are the challenges of product development?	**04**
	(c)	Discuss engineering ethics and issues of society related to design of products.	**07**
Q.3	**(a)**	Discuss importance of product planning.	**03**
	(b)	Explain how concept development can be carried out for designing a product.	**04**
	(c)	Explain in brief generic product development process.	**07**
Q.4	**(a)**	Explain design characteristics of machine tools.	**03**
	(b)	Describe various steps involved in product planning process.	**04**
	(c)	Classify the value engineering function. Explain the approach and evaluation of value engineering function.	**07**
Q.5	**(a)**	What do you mean by affinity diagram?	**03**
	(b)	Explain different costs to be considered in value engineering.	**04**
	(c)	Discuss evaluation methods for material selection.	**07**
Q.6	**(a)**	What do you mean by voice of customer?	**03**
	(b)	Explain clearly the meaning of value and worth. How is present worth calculated?	**04**
	(c)	Explain FAST diagram with example.	**07**
Q.7	**(a)**	Explain determining function.	**03**
	(b)	Discuss organizing and prioritizing needs.	**04**
	(c)	What are the expectations of an automobile company from its product design engineer?	**07**
Q.8	**(a)**	Discuss importance of Leadership, Team work and Communication in Value Engineering.	**03**
	(b)	Explain in brief value engineering job plan.	**04**
	(c)	From the view point of indentifying customers needs explain Gathering and Interpreting raw data for customers needs.	**07**

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