Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- VIIth SEMESTER–EXAMINATION – MAY/JUNE- 2012

Subject code: 171904 **Date: 28/05/2012**

Subject Name: Product Design and Value Engineering

Time: 02:30 pm – 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.**

Q.1	**(a)**	What is Engineering Design? Explain the steps of design process.	**07**
	(b)	Distinguish Product Development Cycle and Product Life Cycle.	**07**
Q.2	**(a)**	What is Value? Explain the reasons for poor value.	**07**
	(b)	Explain the importance of Leadership, Team work and Communication in Value Engineering.	**07**
		OR	
	(b)	Explain the guidelines for Design for Manufacture (DFM).	**07**
Q.3	**(a)**	Explain Generic Product Development Process in detail.	**07**
	(b)	What is product? Explain competitive strategy for new product.	**07**
		OR	
Q.3	**(a)**	Differentiate target specification and final specification of product.	**07**
	(b)	What is creativity? Explain the method of Brain storming and synectics for Idea generation.	**07**
Q.4	**(a)**	Explain the channels of gathering information from customers for a new product development.	**07**
	(b)	What is rigidity? Explain the methods to improve the rigidity of mechanical structure.	**07**
		OR	
Q.4	**(a)**	Explain important properties of ceramic materials considered in design of ceramic components.	**07**
	(b)	Explain the importance of thermal properties of plastics in mechanical design.	**07**
Q.5	**(a)**	Discuss considerations of Human Aspects in Value Engineering	**07**
	(b)	What is cost? Explain the procedure for Calculating the Life Cycle Cost.	**07**
		OR	
Q.5	**(a)**	Explain Function Analysis System Technique (FAST) in detail.	**07**
	(b)	What is Life Cycle Cost? Explain its limitations.	**07**

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