Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI • EXAMINATION – SUMMER 2013

Subject Code: 161502 **Date: 27-05-2013**

Subject Name: Product Development & Value Engineering

Time: 10.30 am - 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.**

Q.1	**(a)**	Discuss importance of human engineering in product design. Explain with example of office furniture.	**07**
	(b)	What factors a design engineer should consider while designing a product?	**07**
Q.2	**(a)**	Discuss value analysis as a complementing technique while Product development is done. Discuss with suitable example.	**07**
	(b)	Discuss implication of value engineering on manufacturing productivity.	**07**
		OR	
	(b)	ñThe value of the product depends on the perception about the productò. Criticize.	**07**
Q.3	**(a)**	Discuss: Value Engineering is not a cheapening process.	**07**
	(b)	Explain product development procedure in detail giving suitable Example.	**07**
		OR	
Q.3	**(a)**	Discuss impact of material selection in design and manufacture of product.	**07**
	(b)	Discuss feasibility studies and its importance in product design and development.	**07**
Q.4	**(a)**	Explain the role of product simplification and product standardization in the product development.	**07**
	(b)	Discuss roadblocks in value engineering exercise.	**07**
		OR	
Q.4	**(a)**	Discuss creativity phase as the key to value engineering. Quote example of smart phones.	**07**
	(b)	Discuss importance of value engineering job plan.	**07**
Q.5	**(a)**	Discuss how market research is important in product development.	**07**
	(b)	Value engineering acts as a balance between cost and performance. Explain.	**07**
		OR	
Q.5	**(a)**	What is anthropometry ? How anthropometric data can be used in scientific designs of equipments ?	**07**
	(b)	State objectives and areas of FAST diagramming for value engineering. What are the informations obtainable from a given FAST diagram.	**07**

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