Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII • EXAMINATION – SUMMER • 2014

Subject Code: 171904 **Date: 29-05-2014**

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)**	Explain designing for environment in detail.	**07**
	(b)	Discuss the successful product development.	**07**
Q.2	**(a)**	Explain the role of value engineering team during product development in detail.	**07**
	(b)	Explain the importance of product specifications? Explain the setting of the final specifications?	**07**
		OR	
	(b)	Discuss the gathering information from customers in relation with new product development.	**07**
Q.3	**(a)**	Explain the product planning process in detail.	**07**
	(b)	You are appointed as a senior Product development engineer in a multinational washing machine manufacturing company. It is required to develop a new improved model of washing machine. How will you attempt the work assign to you successfully? Explain this.	**07**
		OR	
Q.3	**(a)**	Explain clearly – product development and product design.	**07**
	(b)	Define product and explain the classification of product giving suitable examples. State the different ways for cost reduction for different products.	**07**
Q.4	**(a)**	Explain FAST diagram with neat sketch in detail.	**07**
	(b)	Explain the relationship between product development and value engineering. Also explain the advantages of value engineering.	**07**
		OR	
Q.4	**(a)**	Explain the value engineering job plan. Also explain the advantages of value engineering.	**07**
	(b)	Explain the selection of evaluation of value engineering projects?	**07**
Q.5	**(a)**	Explain the importance of materials selection in product design giving suitable examples.	**07**
	(b)	Explain the designing for production in brief.	**07**
		OR	
Q.5	**(a)**	Explain the designing for rigidity with neat sketches in detail.	**09**
	(b)	Bowl of multistage submersible pump is manufactured by casting process. Suggest the suitable material and alternative manufacturing process to reduce air pollution and cost and improve the quality of the product.	**05**

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