

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII (NEW) EXAMINATION – WINTER 2017

Subject Code: 2181913

Date: 10/11/2017

Subject Name: Product Design and Value Engineering(Department Elective II)

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.

		MARKS
Q.1	(a) List different types of Design and briefly discuss Engineering Design.	03
	(b) Explain different types of organization structure used in product development organizations.	04
	(c) Describe generic product development process in detail.	07
Q.2	(a) Briefly discuss how 'Voice of Customer' is considered for 'Customer satisfaction'.	03
	(b) What are the challenges of product development?	04
	(c) Explain Concept development- The Front end process.	07
	OR	
	(c) List and explain different types of 'Customer needs' with suitable example.	07
Q.3	(a) Discuss 'Customer use pattern' for organizing and prioritizing customer need.	03
	(b) Discuss the methods for recording customer need, with their advantages and limitations.	04
	(c) Explain 'Affinity Diagram Method' and 'Customer Sort Method' for grouping of needs.	07
	OR	
Q.3	(a) Discuss 'Design for Maintainability' with suitable example.	03
	(b) Describe the characteristics of successful product development.	04
	(c) Explain steps in the Product planning process.	07
Q.4	(a) Discuss various components of cost for product costing.	03
	(b) Explain how customer need, can be converted into specification of a product with the help of example.	04
	(c) Explain the meaning of Design for manufacture. Support your answer with six different examples.	07
	OR	
Q.4	(a) Discuss Articulated-Use Method for conducting interviews with an example.	03
	(b) Explain the concept of Life cycle cost with the help of example.	04
	(c) Explain Gozinto chart with the help of example.	07
Q.5	(a) Explain the process of selection of project for Value Engineering studies.	03
	(b) Discuss the material selection process during design of component.	04

(c) Explain FAST diagram with a suitable example. **07**

OR

Q.5 (a) Define value engineering and express the function of any four products in 'Verb' and 'Noun'. **03**

(b) List different evaluation methods for material selection and describe any two. **04**

(c) Explain value engineering job plan in detail. **07**
