

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– VI(NEW) – EXAMINATION – SUMMER 2019****Subject Code: 2161502****Date: 14/05/2019****Subject Name: Product Development & Value Engineering****Time: 10:30 AM TO 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.

		MARKS
Q.1	(a) Define 'Value Engineering'.	03
	(b) What is value? Explain various types of value with examples.	04
	(c) What factors a design engineer should consider while designing a Product?	07
Q.2	(a) What is 'Product development'?	03
	(b) State the importance of value engineering.	04
	(c) Discuss how market research is important in product development.	07
OR		
Q.3	(a) State the importance of product planning.	03
	(b) Explain product planning process.	04
	(c) Explain, why product design and value engineering process must start simultaneously?	07
OR		
Q.3	(a) What is do mean by 'Standardization'?	03
	(b) How new product is developed? Explain giving suitable illustration.	04
	(c) Discuss feasibility studies and its importance in product design and development.	07
Q.4	(a) Explain the role of 'Simplification' in product design.	03
	(b) Discuss the importance of material selection for designing any product.	04
	(c) Discuss with example the importance of human engineering in product design.	07
OR		
Q.4	(a) What is anthropometry?	03
	(b) How anthropometric data can be used in scientific designs of equipment?	04
	(c) Write note: Value engineering job plan.	07
Q.5	(a) Explain the life cycle cost.	03
	(b) What are the reasons for poor value of any product?	04
	(c) State and discuss the phases of value analysis in detail.	07
OR		
Q.5	(a) Discuss creativity phase as the key to value engineering.	03
	(b) Discuss value analysis questionnaire techniques.	04
	(c) Write note: FAST diagram: what and why?	07
