

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII (NEW) EXAMINATION – WINTER 2018

Subject Code: 2181913

Date: 15/11/2018

Subject Name: Product Design And Value Engineering

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) Explain various methods for Gathering Customer needs? | 03 |
| | (b) What are the challenges of product development? | 04 |
| | (c) Describe generic product development process in detail. | 07 |
| Q.2 | (a) Briefly discuss different types of designs. | 03 |
| | (b) What is product life cycle? Explain different phases of product life cycle. | 04 |
| | (c) What are product specifications, explain with example? How product specifications are important for product development? | 07 |
| | OR | |
| | (c) Explain different types of organization structure used in product development organizations. | 07 |
| Q.3 | (a) Briefly explain 'Design of Ergonomics', 'Design for Aesthetics' and 'Design for Maintenance' with suitable examples. | 03 |
| | (b) What are the evaluation methods for material selection? Describe any two briefly. | 04 |
| | (c) Discuss 'Customer use pattern' for organizing and prioritizing customer need with suitable example. | 07 |
| | OR | |
| Q.3 | (a) List the computational tools and techniques used during Product development and explain any one. | 03 |
| | (b) Describe 'Kano model' for 'Customer satisfaction' with the help of figure. | 04 |
| | (c) What are the tools and charts used for product analysis? Explain Gozinto chart with the help of example. | 07 |
| Q.4 | (a) Explain different types of 'New Products' with suitable example. | 03 |
| | (b) Define the term 'Product' and explain the classification of product giving suitable examples. | 04 |
| | (c) List the engineering properties of material to be considered for design of product. Explain any three properties with example. | 07 |
| | OR | |
| Q.4 | (a) Discuss different factors affecting 'Selection of Project (Product)' during planning phase of Product development. | 03 |
| | (b) Explain any two 'Concept Generation techniques' used during Product development. | 04 |
| | (c) Explain the meaning of Design for manufacture. Support your answer with six different examples. | 07 |

Q.5	(a) What are different ‘Cost reduction techniques’ used in engineering industry? How Value engineering differ from them?	03
	(b) Discuss the role of ‘Value Engineering Co-coordinator / Facilitator’ during implementation of Value Engineering programme.	04
	(c) Discuss different methods used for ‘Value Engineering Project Selection’.	07

OR
