

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII(NEW) EXAMINATION – SUMMER 2019

Subject Code:2181913

Date:09/05/2019

Subject Name:Product Design And 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.

- Q.1 (a) What is AMF development process? 03
(b) Discuss: (1) Contractual training (2) Informal training 04
(c) What are the challenges faced by the design engineer in current market scenario? 07

- Q.2 (a) Discuss steps involved in product planning process. 03
(b) How the customer's needs are interpreted during product development process. 04
(c) What is creativity? Explain the method of Brain storming and synectics for Idea generation. 07

OR

- (c) You are selected as Product design and development engineer in multinational mobile manufacturing company .To develop a new model of mobile is a work assign to you. How will you attempt this task? While developing the model which parameters you will consider. 07
- Q.3 (a) What is meant by design for production? 03
(b) Discuss in brief Concept Development Techniques (Front End Process) 04
(c) You are appointed as a senior engineer (Product design) in a multinational refrigerator company. It is required to develop a new improved model of refrigerator. How will you carry out the work assign to you? Explain this. 07

OR

- Q.3 (a) Define :(1) Break-even Analysis 03
(2) Value Standard (3) Rapid Prototyping
(b) Explain the procedure for Calculating the Life Cycle Cost. 04
(c) What are specifications? Explain setting the final specification. 07
- Q.4 (a) Briefly Explain guidelines for Design for Manufacture (DFM). 03
(b) Explain competitive strategy for new product. 04
(c) Explain the importance of thermal properties of plastics in mechanical design. 07

OR

- Q.4 (a) Explain Rigidity and Creativity. 03
(b) Differentiate target specification and final specification of product. 04
(c) What can be the difficulties in designing with plastics, rubber, ceramics, glass and wood? 07

- Q.5 (a) Define: 03
(1) Economic Value (2) Social Value (3) Religious Value
(b) Discuss points to be considered for construction of FAST diagram. 04
(c) Explain the different phases of value engineering job plan in brief. 07

OR

- Q.5 (a) Explain the steps of design process. 03
(b) Explain the following with reference to identifying customers' needs: - Gathering raw data from customers. 04
(c) Discuss considerations of Human Aspects in Value Engineering. 07
