

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**
