

GUJARAT TECHNOLOGICAL UNIVERSITY**B. E. - SEMESTER – VII • EXAMINATION – WINTER 2012****Subject code: 171904****Date: 27/12/2012****Subject Name: Product Design and Value Engineering****Time: 10.30 am - 01.00 pm****Total Marks: 70****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) List and explain the characteristics of successful product development. **07**
(b) Explain difference phases of industrial design process. **07**

- Q.2** (a) Explain the importance of product planning. Explains product planning process in detail. **07**
(b) Explain the following with reference to indentifying customers needs:- **07**
(1) Gathering raw data from customers
(2) Interpreting raw data interims of customers needs

OR

- (b) Explain the importance of duration and cost of product development in product development. **07**

- Q.3** (a) Explain the designing for stiffness and rigidity with reference to machines and machine tools. **07**
(b) Explain the designing with ceramics. **07**

OR

- Q.3** (a) Explain the following in connection with design for manufacturing:- **07**
1. Reduction of cost of components,
2. Reduction of cost of assembly
(b) What is the importance of product specifications? How the final specifications are decided? Explain this. **07**

- Q.4** (a) Lists and explain the advantages of value engineering. **07**
(b) Explain the value standards. **07**

OR

- Q.4** (a) Explain the project selection and methods selection with reference to selection of evaluation of value engineering projects? **07**
(b) Explain the different phases of value engineering job plan in brief. **07**

- Q.5** (a) Explain the cost models in brief. **07**
(b) 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**

OR

- Q.5** (a) Explain the life cycle cost in detail. **07**
(b) 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**
