

GUJARAT TECHNOLOGICAL UNIVERSITY
B.E SEM-VII Examination-Nov/Dec.-2011

Subject code: 171904**Date: 26/11/2011****Subject Name: Product Design and Value Engineering****Time: 10.30 am-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) State and explain the factors responsible for product design and development. **07**
(b) Define value, value analysis and value engineering. Discuss in details. **07**
- Q.2** (a) Explain Function analysis system techniques (FAST) in details. **07**
(b) Discuss the role of ergonomics in design and development of new product. **07**
- OR**
- (b) Discuss in detail the process of product development. **07**
- Q.3** (a) How will you incorporate environmental concerns into product design? Discuss. **07**
(b) Discuss Aesthetic, Ergonomics, Technical and Economic factors with illustrations for value determination. **07**
- OR**
- Q.3** (a) Discuss the product design analysis on the basis of Functional, Aesthetic, Production design and design of Packaging. **07**
(b) Explain questionnaires technique used in value analysis. **07**
- Q.4** (a) Discuss the factors responsible for unnecessary costs. **07**
(b) Discuss the link between product design and product cost. **07**
- OR**
- Q.4** (a) How applications of value engineering/analysis enhance total productivity? **07**
(b) Discuss the elements of product design and development. **07**
- Q.5** (a) Discuss the phases of value analysis procedure in details. **07**
(b) Explain the primary and secondary functions of the product. Discuss with illustrations. **07**
- OR**
- Q.5** (a) State and explain the objectives of product design and development. **07**
(b) Product simplification and diversification. Discuss. **07**
