

**GUJARAT TECHNOLOGICAL UNIVERSITY****B. E. Sem-VI Examination May 2011****Subject code: 161502****Subject Name: Product Development & Value Engineering****Date: 17/05/2011****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) What factors a design engineer should consider while designing a product ? **07**  
 (b) Discuss implication of value engineering on overall productivity. **07**

- Q.2** (a) Explain product development procedure in detail giving suitable example. **07**  
 (b) How does value analysis technique differ from other cost reduction techniques ? **07**

**OR**

- (b) “The same item may have different values to the different persons.” – Criticise the statement. **07**

- Q.3** (a) Discuss role played by human engineering in a product design, quoting an example. **07**  
 (b) Explain the role of product simplification and product standardization in the product development. **07**

**OR**

- Q.3** (a) How the type of material affects in design and manufacture of product ? Discuss **07**  
 (b) What is feasibility study ? Discuss its importance related to product design. **07**

- Q.4** (a) Explain the reasons for poor value with illustrations. **07**  
 (b) State the primary and secondary functions in each of the following case : **07**  
 (i) Television (ii) Ball Pen (iii) Laptop computer  
 (iv) Spectacle (v) Air conditioner (vi) Surface plate

**OR**

- Q.4** (a) Explain ‘DARSIRI’ method of value analysis. **07**  
 (b) How value can be increased ? Explain by stating suitable illustration. **07**

- Q.5** (a) Discuss how market research is important in product development. **07**  
 (b) “The genius of creator brings about best performance and highest satisfaction”. – Analyze with focus on creativity aspect. **07**

**OR**

- Q.5** (a) What is anthropometry ? How anthropometric data can be used in scientific designs of equipments ? **07**  
 (b) State objectives and areas of FAST diagramming for value engineering. **07**  
 What are the informations obtainable from a given FAST diagram.

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