

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI • EXAMINATION – SUMMER 2013****Subject Code: 161502****Date: 27-05-2013****Subject Name: Product Development & 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) Discuss importance of human engineering in product design. Explain with example of office furniture. **07**
 (b) What factors a design engineer should consider while designing a product? **07**
- Q.2** (a) Discuss value analysis as a complementing technique while Product development is done. Discuss with suitable example. **07**
 (b) Discuss implication of value engineering on manufacturing productivity. **07**
- OR**
- (b) The value of the product depends on the perception about the product. Criticize. **07**
- Q.3** (a) Discuss: Value Engineering is not a cheapening process. **07**
 (b) Explain product development procedure in detail giving suitable Example. **07**
- OR**
- Q.3** (a) Discuss impact of material selection in design and manufacture of product. **07**
 (b) Discuss feasibility studies and its importance in product design and development. **07**
- Q.4** (a) Explain the role of product simplification and product standardization in the product development. **07**
 (b) Discuss roadblocks in value engineering exercise. **07**
- OR**
- Q.4** (a) Discuss creativity phase as the key to value engineering. Quote example of smart phones. **07**
 (b) Discuss importance of value engineering job plan. **07**
- Q.5** (a) Discuss how market research is important in product development. **07**
 (b) Value engineering acts as a balance between cost and performance. Explain. **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. What are the informations obtainable from a given FAST diagram. **07**
