

**GUJARAT TECHNOLOGICAL UNIVERSITY****M. E. - SEMESTER – II • EXAMINATION – WINTER • 2014****Subject code: 1725003****Date: 04-12-2014****Subject Name: Product Development and Innovation****Time: 02:30 pm - 05:00 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) List the various phases in Product Development Process and explain all in detail. **07**  
 (b) Define Specifications and explain the process of establishing target specifications. **07**
- Q.2** (a) Explain the different challenges in Product development process. **07**  
 (b) List the causes of failure of new product and justify the statement "Incorrectly placed, priced and advertised new product generally leads to failure in market." **07**
- OR**
- (b) List the steps for identifying customer's needs and explain how the raw data are gathered from the customer. **07**
- Q.3** (a) Explain the different types of product development project and give the reasons for poor development planning. **07**  
 (b) Discuss the phenomenon of functional decomposition and product decomposition in concept generation process. **07**
- OR**
- Q.3** (a) What is concept generation process ? Explain it with all five steps. **07**  
 (b) Write down the industrial design process in detail. **07**
- Q.4** (a) List and explain the different steps involved in concepts testing procedure. **07**  
 (b) How industrial design is important to a product ? Also write its aesthetic needs. **07**
- OR**
- Q.4** (a) Discuss the Screening and Scoring stage in concept selection process. **07**  
 (b) What is importance of industrial design to a product ? explain it in detail. **07**
- Q.5** (a) What is inventive problem? Also explain the five levels of solution. **07**  
 (b) Define and discuss the concept of TRIZ and give its applications in product design and development. **07**
- OR**
- Q.5** (a) Which are the different types of property ? Explain the intellectual property relevant to product design and development. **07**  
 (b) Explain the concept of "QFD" with suitable example. **07**

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