

GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2013

Subject code: 1725003**Date: 03-06-2013****Subject Name: Product Development and Innovation****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) 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 steps for identifying customer's needs and explain how the raw data are gathered from the customer **07**
- OR**
- (b) Discuss briefly the process of product plan development. **07**
- 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**
- OR**
- Q.3** (a) Discuss the Screening and Scoring stage in concept selection process. **07**
(b) For identifying customer's needs how do you organize the needs in to hierarchy. **07**
- Q.4** (a) What do you mean by TRIZ ? Discuss its concept briefly also give its applications in product design and development. **07**
(b) Explain the concept of 'QFD' with the example of ball point pen with atleast 5 customer's requirements to convert into final specifications. **07**
- OR**
- Q.4** (a) What is intellectual property? Explain the different forms intellectual property **07**
(b) Discuss the phenomenon of Functional decomposition and product decomposition in concept generation process. **07**
- Q.5** (a) What is inventive problems. Also explain the five levels of solution. **07**
(b) Explain the different types of product development project and give the reasons for poor development planning. **07**
- OR**
- Q.5** (a) Discuss the patent search process briefly and the give the details contained in patent by giving the patent sample. **07**
(b) List and explain the different steps involved in concepts testing procedure. **07**
