

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2014****Subject code: 1725003****Date: 20-06-2014****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) What is product development? why it is required and give its usefulness **07**
 (b) What do you mean by organization ? Compare the characteristics of project based organization and function based organization. **07**
- Q.2** (a) Explain in brief the product planning process. **07**
 (b) How the final specifications are set in product development process? **07**
- OR**
- (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**
- Q.3** (a) Write the various steps for identifying customer needs and discuss the different techniques used for collecting raw data from customer. **07**
 (b) Discuss the phenomenon of functional decomposition and product decomposition in concept generation process. **07**
- OR**
- Q.3** (a) How industrial design is important to a product ? Also write its aesthetic needs. **07**
 (b) What would be the relative advantages and disadvantages of involving actual customers in the concept generation process ? **07**
- Q.4** (a) List and explain the various steps in concept testing process. **07**
 (b) Describe the screening & scoring stages in concept selection process with a suitable example. **07**
- OR**
- Q.4** (a) Define and discuss the concept of TRIZ and give its applications in product design and development. **07**
 (b) Explain the concept of QFD with a case study of Xerox ñ photo copier machine at least for five customer's requirement. **07**
- Q.5** (a) Which are the different types of property ? Explain the intellectual property relevant to product design and development. **07**
 (b) Write and discuss the different survey formats in concept testing process with example. **07**
- OR**
- Q.5** (a) Explain the overview of a patent by giving a sample of patent. **07**
 (b) Which are the government regulations for design for environment. **07**
