Seat No.: _____ Enrolment No._____

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 ñIncorrectly placed, priced and advertised new product generally leads to failure in market.ò	**07**
		OR	
	(b)	List the steps for identifying customerôs 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 ñQFDò with suitable example.	**07**

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