Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII (NEW) - EXAMINATION – SUMMER 2017

Subject Code: 2183408 **Date: 02/05/2017**

Subject Name: Product Design & Development

Time: 10:30 AM to 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)**	Explain Generic Product Development Process in detail.	**07**
	(b)	List and explain the characteristics of successful product development.	**07**
Q.2	**(a)**	Discuss steps involved in product planning process.	**07**
	(b)	What is the meaning of ergonomic design? Explain by giving suitable example.	**07**
		OR	
	(b)	Explain the costumer's needs and product development process.	**07**
Q.3	**(a)**	You are appointed as a senior Product development engineer in a multinational MARINE STRUCTURE company. It is required to develop a new improved model of SHIP. How will you attempt the work assign to you successfully? Explain this.	**07**
	(b)	Explain the importance of materials selection in product design by giving suitable examples.	**07**
		OR	
Q.3	**(a)**	How Value Engineering Program can be initiated?	**07**
	(b)	Explain Design for stiffness and rigidity.	**07**
Q.4	**(a)**	What is the role of an engineer in society? As a production engineer what should be our responsibilities while designing any product for the society.	**07**
	(b)	Explain TRIZ- a method of problem solving for functional representation.	**07**
		OR	
Q.4	**(a)**	What is creativity? Explain the method of Brain storming and synectics for Idea generation.	**07**
	(b)	Explain how concept development can be carried out for designing a product.	**07**
Q.5	**(a)**	Explain the cost models in brief.	
	(b)	Explain in brief different costs to be considered in the value engineering.	**07**
		OR	
Q.5	**(a)**	Explain designing for environment in detail.	**07**
	(b)	What is cost? Explain the procedure for Calculating the Life Cycle Cost.	**07**

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