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

GUJARAT TECHNOLOGICAL UNIVERSITY

ME Semester –III Examination Dec. - 2011

Subject code: 730903 **Date: 08/12/2011**

Subject Name: Product Design

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)**	Explain different types of designs and redesign sitting suitable examples for each. Also explain Engineering Design.	**07**
	(b)	Explain the Gantt charts as planning and scheduling tool with a suitable example.	**07**
Q.2	**(a)**	Explain the concept of reverse engineering and redesign product development process.	**07**
	(b)	Explain different important team roles for product development.	**07**
		OR	
	(b)	Explain the five – step process to develop a product plan and project mission statements	**07**
Q.3	**(a)**	Explain the concept of Design drivers with one suitable example.	**07**
	(b)	What are the main primary purposes of product teardown and apply the force flow approach to Stapler as a product.	**07**
		OR	
Q.3	**(a)**	Establish a modular architecture for a Laser Printer with all the four steps	**07**
	(b)	What is the need for measurement in Product Design? Explain with one suitable example.	**07**
Q.4	**(a)**	What is Quality function Deployment? Draw, develop and explain a House of Quality for any Automobile Component in detail.	**14**
		OR	
Q.4	**(a)**	(i) Explain "Concurrent engineering is a good tool for QFD." (ii) Explain the DFA and DFM Guidelines for with suitable examples	**14**
Q.5	**(a)**	Explain the concept of six-step benchmarking process with a example of Masala Tea Mill.	**07**
	(b)	Explain the different categories of Product architecture in detail with suitable examples and also explain different types of modularity.	**07**
		OR	
Q.5	**(a)**	Explain Concept Generation process and different methodologies. Also explain Morphological Analysis with some suitable example including formation of morphological matrix.	**07**
	(b)	Explain Pugh Concept Selection Charts with one appropriate example.	**07**

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