Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER IV (NEW) – • EXAMINATION – WINTER 2016

Subject Code: 740801 **Date: 26/10/2016**

Subject Name: Rapid Prototyping and Tooling

Time:02:30 pm to 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)**	Define "prototyping" and write its applications.	**07**
	(b)	Write the difference between product development cycle and product life cycle.	**07**
Q.2	**(a)**	Explain close loop and open loop control system in CNC.	**07**
	(b)	Explain any two methods which are use to acquire data points in reverse engineering.	**07**
		OR	
	(b)	Enlist seven typical applications of rapid prototyping technology.	**07**
Q.3	**(a)**	What is feature based modeling? State the advantages and disadvantages.	**07**
	(b)	Write the short note on spatial decomposition models.	**07**
		OR	
Q.3	**(a)**	Write the short note on wire-frame models.	**07**
	(b)	Enlist the types of sensors use in robots and explain any one in detail.	**07**
Q.4	**(a)**	Write the guide lines for "design for manufacturing".	**07**
	(b)	Explain the virtual reality and augmented reality with examples.	**07**
		OR	
Q.4	**(a)**	Write a short note on "design for assembly".	**07**
	(b)	Enlist the available tools for computer-aided engineering.	**07**
Q.5	**(a)**	List the various solid and liquid base rapid prototyping processes and explain any two of them.	**07**
	(b)	Explain indirect rapid tooling process in detail.	**07**
		OR	
Q.5	**(a)**	Write the short note on laminated-object manufacturing with neat sketch.	**07**
	(b)	State the benefits of product data management system.	**07**

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