Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – IV • EXAMINATION – SUMMER • 2013

Subject code: 742401 **Date: 14-05-2013**

Subject Name: Advanced Mould Manufacturing Technology

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 axes and motion nomenclature for CNC turning and machining centers.	**07**
	(b)	Explain about machining cycles in CNC machining.	**07**
Q.2	**(a)**	Explain the part programming structure with suitable example.	**07**
	(b)	Discuss the significance of CAD/CAM in mould manufacturing.	**07**
		OR	
	(b)	Explain different components of CNC system with neat sketch.	**07**
Q.3	**(a)**	Explain different tool materials and their applications.	**07**
	(b)	Explain the types of milling cutters with neat sketches.	**07**
		OR	
Q.3	**(a)**	Explain the injection mould design process in CAD software.	**07**
	(b)	How reverse engineering is useful in mould manufacturing? Explain.	**07**
Q.4	**(a)**	Write about G-codes.	**07**
	(b)	Explain the factors to be considered for plastics product design.	**07**
		OR	
Q.4	**(a)**	Explain the ball screw and nut mechanism in CNC machines.	**07**
	(b)	Discuss the controls and user interface of CNC machines.	**07**
Q.5	**(a)**	How is CNC machine better than conventional one? Explain.	**07**
	(b)	Discuss the applications of CIM in mould manufacturing.	**07**
		OR	
Q.5	**(a)**	Explain 3D printing and FDM.	**07**
	(b)	Explain the function of 3D scanner and its application in mould manufacturing.	**07**

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