Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – II • EXAMINATION – WINTER • 2014

Subject code: 1722402 **Date: 03-12-2014**

Subject Name: Plastics mould Manufacturing Technology

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)**	Write short note on (a) Advantages of CNC machines over conventional machines.	**07**
	(b)	Explain various qualities of good mould design	**07**
Q.2	**(a)**	What is rapid prototyping? Explain any two methods with neat sketches	**07**
	(b)	What is cutting tool? Explain the different materials used for manufacturing of cutting tools?	**07**
		OR	
	(b)	Define Lathe and explain the operations that can be performed in CNC lathe..	**07**
Q.3	**(a)**	What is heat treatment? Explain different surface hardening processes.	**14**
		OR	
Q.3	**(a)**	What is milling? Explain the role of CNC milling in mould manufacturing	**14**
Q.4	**(a)**	Why is steel considered to be an ideal materials for construction of mould? Explain.	**07**
	(b)	Explain the principle and operations of CMM	**07**
		OR	
Q.4	**(a)**	What are the advantages and applications of CNC EDM? What are the advantages and applications of CNC wire cut EDM?	**07**
	(b)	Write about the inspection and quality control of moulds.	**07**
Q.5	**(a)**	Explain the programmable axes of CNC vertical and horizontal spindle machining centers and CNC turning centers with neat sketches	**07**
	(b)	Write about Hydro copying and vacuum hardening	**07**
		OR	
Q.5	**(a)**	Explain the following with neat sketch (i) Stereography (ii) Fused Deposition Modeling.	**07**
	(b)	Explain the pantograph engraving method with neat sketch.	**07**

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