Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – I • EXAMINATION – WINTER 2012

Subject code: 712403N **Date: 12-01-2013**

Subject Name: Plastics Mould & Product Design

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)**	Explain different mould design requirements.	**07**
	(b)	Explain the steps in manufacturing of shouldered guide pillar with neat sketches.	**07**
Q.2	**(a)**	Define ejection system and explain the types with neat sketches.	**07**
	(b)	Define and explain different mould temperature controlling methods.	**07**
		OR	
	(b)	Explain different cam actuation systems of automatic injection moulds.	**07**
Q.3	**(a)**	Explain injection and stretch blow moulds with suitable sketch.	**07**
	(b)	Write about the heating systems in compression moulding.	**07**
		OR	
Q.3	**(a)**	Explain compression mould and its types with neat sketches.	**07**
	(b)	Explain plunger transfer and screw transfer moulding with neat sketches.	**07**
Q.4	**(a)**	Explain the plastics product wall thickness considerations.	**07**
	(b)	Write about designing with plastics for load bearing applications.	**07**
		OR	
Q.4	**(a)**	Explain about the design considerations of Radii, fillets, ribs and bosses in plastic products.	**07**
	(b)	Write short notes on (i) Nearness of holes to each other and side wall (ii) Fits & Tolerances in plastics product design.	**07**
Q.5	**(a)**	Write about the design of integral hinges, hinges and snap fits.	**07**
	(b)	Write short notes on (i) Surface treatments (ii) Relieving moulding stresses around inserts.	**07**
		OR	
Q.5	**(a)**	Explain any two rapid prototyping methods with neat sketches.	**07**
	(b)	Write short notes on (i) Process variables vs Product design (ii) Shrinkage vs Tolerance.	**07**

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