Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII (NEW) EXAMINATION – WINTER 2018

Subject Code: 2173409 **Date: 03/12/2018**

Subject Name: Plastic mold & Die design

Time: 10:30 AM TO 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.**

			MARKS
Q.1	**(a)**	What is the role of CNC Machines in mould fabrication	**03**
	(b)	What are the principles of mould design?	**04**
	(c)	What are the different types of materials used for different parts of the mould?	**07**
Q.2	**(a)**	Why heat treatment of mould is necessary? Name 3- Heat treatment techniques.	**03**
	(b)	Explain compression molding cycle with neat sketch	**04**
	(c)	Explain the working principle of CNC-Lathe machine. How many working axis does a lathe machine posses.	**07**
		OR	
	(c)	Explain three plate mould with neat sketch	**07**
Q.3	**(a)**	How mould heating can be achieved?	**03**
	(b)	Explain sub-marine gate.	**04**
	(c)	Explain pin-ejection system with neat sketch	**07**
		OR	
Q.3	**(a)**	Explain a. Ejector plate b. Retainer Plate c. Push back pin	**03**
	(b)	Differentiate injection molding Vs Compression molding	**04**
	(c)	Explain Dog-leg cam actuation system with neat sketch.	**07**
Q.4	**(a)**	Explain Mould cooling?	**03**
	(b)	What are the requirements of Runner?	**04**
	(c)	Explain different types of runners and their efficiencies with neat sketches.	**07**
		OR	
Q.4	**(a)**	Explain pin-point & Tab gate with neat sketch	**03**
	(b)	Explain blade-ejection system with neat sketch.	**04**
	(c)	What is plastic extrusion? Explain the extrusion die construction principles.	**07**
Q.5	**(a)**	Explain integer & Insert type of moulds.	**03**
	(b)	Explain stripper & Valve ejection system with neat sketches.	**04**
	(c)	Explain positive & Semi positive type of compression moulds with neat sketches	**07**
		OR	
Q.5	**(a)**	Name the process parameters of transfer mould.	**03**
	(b)	What is gate? Why gate positioning is important?	**04**
	(c)	Explain pot & plunger type of transfer mould with neat sketch.	**07**

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