Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII (NEW) EXAMINATION – SUMMER 2021

Subject Code:2173409 Date:06/08/2021

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.**

Q.1	**(a)**	Explain application of ferrous & non-ferrous materials in mould making.	**03**
	(b)	What is the selection criteria of Mold materials?	**04**
	(c)	Explain different heat treatment processes used for hardening of core and cavity of injection moulds.	**07**
Q.2	**(a)**	What is the principle involved in EDM process?	**03**
	(b)	Differentiate between Two Plate & Three Plate Mold designs of Injection mould.	**04**
	(c)	Write short notes on a) Shaping b) Electro-forming c) Honing techniques.	**07**
		OR	
	(c)	Explain principle, construction and operation of Lathe & Milling Machine with neat sketches	**07**
Q.3	**(a)**	Write short notes on runner less mold.	**03**
	(b)	Explain each components of Feed system of injection mould.	**04**
	(c)	List out types of Split Mould Actuation methods. Explain any two with neat sketches.	**07**
		OR	
Q.3	**(a)**	What do you mean by runner balancing?	**03**
	(b)	What is ejection system in a mould? Explain Valve ejection system.	**04**
	(c)	List out the types of Gate. Explain any four with neat sketches.	**07**
Q.4	**(a)**	Explain how runner size is calculated.	**03**
	(b)	Explain the design procedure of Extrusion Die.	**04**
	(c)	Discuss the requirements of Mould Temperature Control system. Explain with neat sketch any two cooling system for core.	**07**
		OR	
Q.4	**(a)**	Write short notes on Air Ejection System.	**03**
	(b)	List out the parts of Extrusion Die with neat sketches.	**04**
	(c)	Explain design of flash type compression mould with neat sketch and example.	**07**
Q.5	**(a)**	Write short notes on guide pins and guide bushes.	**03**
	(b)	Explain CNC Technology in mould manufacturing and its application.	**04**
	(c)	Differentiate between compression and transfer mould design.	**07**
		OR	
Q.5	**(a)**	Write short notes on spark erosion.	**03**
	(b)	Write the Rheological considerations for design of extrusion dies.	**04**
	(c)	Explain the plunger transfer type Mould.	**07**

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