Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI (NEW) EXAMINATION – SUMMER 2023

Subject Code:3163408 Date:14-07-2023

Subject Name:Plastic Mould and 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.**
4. **Simple and non-programmable scientific calculators are allowed**

			MARKS
Q.1	**(a)**	Explain the selection criteria of materials for mould and dies.	**03**
	(b)	Which are the methods used for fabrication of mold? Explain any one.	**04**
	(c)	Explain material selection for cavity, core, back plates, Inserts, guide pins, guide bushes and ejector elements.	**07**
Q.2	**(a)**	Give the detail classification of different types of heat treatment processes carried out on metal.	**03**
	(b)	Explain the importance of runner and gate system in injection moulding process.	**04**
	(c)	Enlist different types of milling and explain any one in detail.	**07**
		OR	
	(c)	Discuss pin ejection used in injection system in detail.	**07**
Q.3	**(a)**	List various parts of Die and write function of any three parts..	**03**
	(b)	Write a short note on flash mould.	**04**
	(c)	Explain planning & shaping operations in mold manufacturing.	**07**
		OR	
Q.3	**(a)**	How to design gate position?	**03**
	(b)	Explain Rheological considerations in design of extrusion die.	**04**
	(c)	Explain Pin and valve ejection system.	**07**
Q.4	**(a)**	Explain feed system in Transfer Molds.	**03**
	(b)	Write a short note on runner balancing.	**04**
	(c)	Explain design of semi positive and flash moulds in detail along with suitable examples.	**07**
		OR	
Q.4	**(a)**	Write a short note on economical consideration of plastic mould.	**03**
	(b)	Write a short note on plunger type compression.	**04**
	(c)	Explain design of straight through dies with calculations.	**07**
Q.5	**(a)**	How EDM and CNC are used in mould and die making?	**03**
	(b)	What are the factors to be highlighted in sheet work?	**04**
	(c)	How to calculate transfer pot of transfer moulds?	**07**
		OR	
Q.5	**(a)**	Explain the importance of Bill of material in sheet work.	**03**
	(b)	Explain third angle projection method with suitable diagram.	**04**
	(c)	Write a short note on semi-automatic compression mould with a neat sketch.	**07**

****