

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2024

Subject Code:3163408

Date:24-05-2024

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) What is the purpose of learning the subject Plastic Mould & Die Design.	03
	(b) What are the basic principles of mould design?	04
	(c) Enlist various materials used for fabricating mould & dies. Which factors affect on the selection of material?	07
Q.2	(a) Differentiate between ferrous and non ferrous materials.	03
	(b) Define heat treatment. Also mention which type of heat treatment process suitable for fabricating injection molding die.	04
	(c) With the neat sketch explain the working of stripper plate ejection system.	07
OR		
	(c) With the neat sketch explain electro discharge machining process for mould and die making.	07
Q.3	(a) Discuss honing tool and honing process.	03
	(b) What are runners? How balancing of runners are done?	04
	(c) Considering suitable density of raw material, diameter of screw in injection molding machine and assuming short weight , write procedure for calculating injection stroke or shot size.	07
OR		
Q.3	(a) Briefly discuss about layout of cooling system.	03
	(b) How grinding operation is used for mould and die making?	04
	(c) Describe the requirement of gate in feeding system. State importance of positioning of gate.	07
Q.4	(a) What is flash in mould?	03
	(b) Explain the function of extrusion design.	04
	(c) What is rheological considerations while designing extrusion die?	07
OR		
Q.4	(a) What is compression mould?	03
	(b) Differentiate between pot type and plunger type transfer mould.	04
	(c) Write procedure for designing approach section and land considering extrusion die.	07

- Q.5** (a) What is bill of material? **03**
(b) Explain third angle projection method for drawing a sheet on mould design. **04**
(c) Write procedure for designing a pot in transfer mould. **07**
- OR**
- Q.5** (a) Draw a neat sketch of thermal pin cooling with nomenclature. **03**
(b) What are the functions of insert, guide pin and bushings? **04**
(c) Describe semi-automatic compression mould with neat sketch. **07**
