

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV (NEW) EXAMINATION – SUMMER 2024****Subject Code:3142308****Date:18-07-2024****Subject Name: Fundamentals of Mold 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) Define: (1) Impression (2) Guide Pins (3) Core	03
	(b) Define: (1) Sprue Bush (2) Bolster (3) Parting Line (4) Register Ring	04
	(c) Compare : Hand Injection Mold Vs Hand Compression Mold	07
Q.2	(a) Define Gate. List types of Gate.	03
	(b) A round cap size of 30 mm x 30 mm, wall thickness 2 mm throughout is to be molded from material PP Density: 0.9gm/cc. Calculate the weight of the product. Also mention feed system weight.	04
	(c) List the methods of incorporating cavity and core in their respective halves of the mould. Explain Integer methods in detail.	07
	OR	
	(c) Short Note: Sprue Pullers	07
Q.3	(a) Define Sprue Bush. Draw the sectional elevation of Sprue Bush having spherical seating.	03
	(b) Define : (1) Feed system (2) Runner (3) Sprue (4) Back Plate	04
	(c) List the types of Register ring. Explain about it in details.	07
	OR	
Q.3	(a) List the steel materials used for Guide Pillars. Explain function of Guide Pillars in brief.	03
	(b) List the steps involved in designing an injection mould.	04
	(c) List types of Bolster. Explain any two types with figure.	07
Q.4	(a) List out various types of Runner system used in Injection molds.	03
	(b) List the factors affecting Runner Layout.	04
	(c) Discuss Sleeve Ejection in detail.	07
	OR	
Q.4	(a) Gives various types of Non Flat parting surface and Explain any one.	03
	(b) Write down Balancing of runner system.	04
	(c) List out various ejector elements and sketch any one.	07
Q.5	(a) Define Ejector Grid. List types of Ejector Grid.	03
	(b) Draw 4 and 8 impression runner layout.	04
	(c) Explain : (1) Overlap Gate (2) Diaphragm Gate	07
	OR	
Q.5	(a) For a Rectangular product of Polyacetal having length 100mm,width 50mm and height 25mm , wall thickness 2mm throughout. Calculate the dimensions of rectangular edge gate.	03
	(b) List out various types of Ejector system.	04
	(c) Explain rectangular type cooling system used for integer cavity plate cooling with neat sketch.	07
