

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV EXAMINATION – SUMMER 2025****Subject Code:3142310****Date:23-05-2025****Subject Name: Injection Molding Technology****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 Injection Molding. List parts of Injection molding machine.	03
	(b) Define : (i) Short shot (ii) Back pressure (iii) Suck back (iv) Plasticizing capacity	04
	(c) List advantages and disadvantages of Injection molding.	07
Q.2	(a) Define (i) Tonnage (ii) Drooling (iii) Minimum Day light	03
	(b) Explain various stages in a Plunger type Injection moulding cycle.	04
	(c) List the auxiliaries required for Injection Molding Plant. Explain about Mold Temperature control.	07
OR		
	(c) Explain in detail about Cooling Tower with neat sketch.	07
Q.3	(a) Write the applications of Injection Molding.	03
	(b) Explain in brief about Plunger type machine.	04
	(c) Define Nozzle. List types of Nozzle. Explain any one with neat sketch.	07
OR		
Q.3	(a) Calculate the clamping tonnage required for product having area 100 cm ² and line pressure is 750 kg/cm ² .	03
	(b) Write down causes & remedies for : (i) Warp (ii) Burn marks	04
	(c) Compare: Hydraulic Clamping with Toggle Clamping.	07
Q.4	(a) Draw line diagram of clamping side of single mono toggle.	03
	(b) Explain basic principle of screw conveying.	04
	(c) List start up, running and shut down procedure of Injection molding machine.	07
OR		
Q.4	(a) List the process variables of Injection molding.	03
	(b) Explain cavity pressure profile in Injection Moulding.	04
	(c) Draw the General purpose screw for Injection molding of Thermoplastic and explain its each terminology.	07
Q.5	(a) What is pre drying? Which type of materials required pre drying before processing in Injection molding?	03
	(b) Draw the PVT diagram and explain it briefly.	04
	(c) Explain Thermoset injection molding process with diagram.	07
OR		
Q.5	(a) Compare: Injection molding of Thermoplastic with Injection molding of Thermoset.	03
	(b) Write a note on Vented barrel.	04
	(c) Compare between Hydraulic & Electrical drives	07
