

GUJARAT TECHNOLOGICAL UNIVERSITY
BE- SEMESTER-IV (NEW) EXAMINATION – WINTER 2020

Subject Code:3142310**Date:17/02/2021****Subject Name:Injection Molding Technology****Time:02:30 PM TO 04:30 PM****Total Marks:56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) Define Injection Moulding. Write its working principle.	03
	(b) Classify Injection Moulding Machine.	04
	(c) Draw and explain Injection Moulding Machine and its parts.	07
Q.2	(a) Explain about the process parameters of Injection moulding machine.	03
	(b) Write the advantages of Injection Moulding.	04
	(c) Give the Injection moulding Machine operation sequence with diagram.	07
Q.3	(a) Write the applications of Injection Moulding.	03
	(b) Write and explain the Injection Moulding Cycle.	04
	(c) Write note on-	07
	(i) Plunger type machine	
(ii) Plunger- plunger type machine		
(iii) Screw- Plunger type machine		
Q.4	(a) What are the types of heaters used in injection moulding machines?	03
	(b) Write a note on-	04
	(i) Vented barrel	
	(ii) Grooved barrel	
Q.5	(c) Define-	07
	(i) Injection Speed	
	(ii) Back pressure	
	(iii) Screw rotation speed	
	(iv) Cushion	
Q.6	(a) Write a short note on tie bar less clamping	03
	(b) Define nozzle. State it types and explain any one with diagram.	04
	(c) What are the types of clamping mechanism? Give difference between them.	07
Q.7	(a) How to calculate clamp force?	03
	(b) Explain PVT profile inside the cavity	04
	(c) Which thermoset materials can be injection moulded? Give properties and applications of any 4 of them.	07
Q.8	(a) What is pre drying? Why is it required?	03
	(b) What is the purpose of hopper loader in injection moulding machine?	04
	(c) Write the reasons and remedies for-	07
(i) Sink marks		
(ii) Jetting		

- (iii) Weld lines
- (iv) Delamination

- Q.8** (a) Define- **03**
- (i) Short shot
 - (ii) Starve feeding
- (b) What is drooling? How can it be prevented? **04**
- (c) Write the reasons and remedies for- **07**
- (i) Blisters
 - (ii) Flash
 - (iii) Flow lines
 - (iv) Warpage
