

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-V (NEW) EXAMINATION – WINTER 2020****Subject Code:3152307****Date:27/01/2021****Subject Name:Plastics Extrusion Technology****Time:10:30 AM TO 12:30 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) Explain melting mechanism in extrusion.	03
	(b) Define:	04
	(i) Breaker Plate	
	(ii) Reduction Gear Box	
	(iii) L/D Ratio	
	(iv) Feed Hopper	
	(c) Discuss the working principle of a single screw extruder. Also compare single screw v/s. twin screw extruder.	07
Q.2	(a) Compare Blown film with Cast film.	03
	(b) Differentiate between corotating and counter rotating twin screw extruder.	04
	(c) With a neat line diagram, discuss the manufacture of Nylon monofilaments.	07
Q.3	(a) Give the proper reason for uses of PVC screw and Nylon screw.	03
	(b) Discuss Grooved barrel technology.	04
	(c) Define and discuss significance of : L/D ratio ; compression ratio ; helix angle; root diameter ; flight depth ; breaker plate ; screen pack	07
Q.4	(a) Differentiate between screen pack and breaker plate.	03
	(b) List the types of dies are used for Blown film extrusion. Draw any two.	04
	(c) With a neat line diagram, discuss manufacture of wires and cables.	07
Q.5	(a) Name the types die used for Sheet extrusion.	03
	(b) Explain the coextrusion process in short with neat diagram.	04
	(c) Explain the sheet manufacturing process with neat diagram.	07
Q.6	(a) Give two troubleshooting for manufacturing of Sheet.	03
	(b) List the types of screw used for extrusion with neat diagram.	04
	(c) Give any five troubleshooting for manufacturing of Pipes.	07
Q.7	(a) Define : Drag flow, Pressure flow	03
	(b) List the name of dies used for flat film with neat diagram.	04

(c) Discuss various types of heating systems in screw extruders in detail. **07**

- Q.8**
- (a) Draw the diagram of straight through die and cross head die. **03**
 - (b) What is the difference between blown films and cast films? **04**
 - (c) Discuss raw material selection criteria for extrusion process in detail. **07**

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