

Enrolment No./Seat No _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-IV (NEW) EXAMINATION – WINTER 2024

Subject Code:3142309

Date:22-11-2024

Subject Name:Thermoplastic Materials

Time:02:30 PM TO 05:00 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) Explain the monomer preparation process for vinyl chloride.	03
(b) Draw the Structure of ABS, PC, Nylon 66 and PET.	04
(c) Explain the manufacturing process of Polyacetal.	07
Q.2 (a) List the typical properties of PET.	03
(b) What are the typical properties and applications of HIPS?	04
(c) Discuss the manufacturing process of PP.	07
OR	
(c) Explain the properties and application of PVC.	07
Q.3 (a) Explain the monomer preparation process for Styrene.	03
(b) Draw the Structure of PS, Nylon 6, PBT and PMMA.	04
(c) Draw a neat sketch and explain the manufacturing of PVC.	07
OR	
Q.3 (a) Explain the monomer preparation process for Dimethyl terephthalate.	03
(b) List the properties and applications of PAN.	04
(c) Explain the Tower process to manufacture Polystyrene with a neat sketch.	07
Q.4 (a) What are the common applications of HDPE?	03
(b) Discuss the structure, properties and applications of ABS.	04
(c) Explain the manufacturing of PC by phosgenation process	07
OR	
Q.4 (a) Explain the monomer preparation process for Terephthalic acid.	03
(b) List the properties and applications of PP.	04
(c) Draw and explain the manufacturing of LDPE.	07
Q.5 (a) Draw the Structure of HDPE, EVA and EVOH.	03
(b) What are the basic characteristics of thermoplastic molding materials?	04

(c) Discuss the properties, applications and processing characteristics of PBT. **07**

OR

Q.5 (a) Draw the isotactic, syndiotactic & atactic structures of PP. **03**

(b) List the properties and applications of Polyamide. **04**

(c) Explain the manufacturing process of Nylon 6 & Nylon 66. **07**
