

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-VI (NEW) EXAMINATION – WINTER 2020****Subject Code:2162307****Date:22/01/2021****Subject Name:Testing and Identification of Plastic Materials****Time:02:00 PM TO 04:00 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) Give examples of (1) Soft and Weak (2) Soft and Tough (3) Hard and Tough plastic material	03
(b) List the electrical properties tests carried out for plastic materials.	04
(c) Write basic preliminary tests to identify (a) Polyvinyl Chloride (b) Polyamides (c) Polystyrene	07
Q.2 (a) Explain in short about creep.	03
(b) Explain with diagram about notch and state the reason for notching the impact test sample.	04
(c) Explain in detail about Tensile strength. List out the various types of samples used. Write the test procedure for same.	07
Q.3 (a) Give full form of (i) ASTM (ii) ISO	03
(b) Write a short note on : Vicat softening Point	04
(c) Define Surface and Volume Resistivity and explain the test procedure to determine same with neat diagram.	07
Q.4 (a) Define-(i) Heat Deflection Temperature (ii) Dielectric Constant (iii) Refractive Index	03
(b) Write a short note on : Thermal Conductivity	04
(c) Describe Differential scanning Calorimeter (DSC) with neat diagram and graph.	07
Q.5 (a) Explain in short the significance of TGA.	03
(b) Define- (i) Haze (ii) Dissipation Factor (iii) Co- efficient of thermal expansion	04
(c) Define Luminous Transmittance & Haze. Explain Test method carried out to determine Luminous Transmittance & Haze of plastics material with neat sketch.	07

- Q.6** (a) Write short note on : Gloss **03**
(b) Explain Impact Strength in brief. **04**
(c) Explain ESCR test in detail with neat sketch. **07**
- Q.7** (a) Write short notes on: Flammability test **03**
(b) Explain the significance of Dielectric Strength. **04**
(c) Define MFI and explain in detail about the test, along with the factors affecting it. **07**
- Q.8** (a) Write short note on: Oxygen Index Test. **03**
(b) Define Arc resistance. List the typical requirements of an Insulator. **04**
(c) Explain in detail about Gel Permeation Chromatography test. **07**

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