

GUJARAT TECHNOLOGICAL UNIVERSITY**M.E –IIst SEMESTER–EXAMINATION – JULY- 2012****Subject code: 1722401****Date: 06/07/2012****Subject Name: Plastics Testing Technology****Time: 10:30 am – 13:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1 (a) Explain how will you measure tensile strength along with factors affecting the test results? **07**

(b) Draw a typical stress-strain curve of plastics and explain the following. a)Yield point b) Stress at break c) proportional limit **07**

Q.2 (a) Define flexural strength? What are the factors affecting the values of flexural strength and explain. **07**

(b) What is HDT? Describe the test method as per ASTM D 648 and what are the factors affects on HDT? **07**

OR

(b) Define arc resistance. Explain a method to determine arc resistance of plastics. **07**

Q.3 (a) Define Thermal Conductivity. Describe a method for determining the thermal conductivity of a plastic test specimen. **07**

(b) Define dielectric strength. How do you determine it for plastics? **07**

OR

Q.3 (a) How saturated polyesters are identified and how PET, PBT can be distinguished? **07**

(b) What do you understand by wear resistance? Explain in detail about Taber Abrasion test. **07**

Q.4 (a) Write in detail about testing of HDPE pipes as per IS- 4984-95. **07**

(b) Explain the tests generally carried out for UPVC pipes for quality checking with regard to its application for potable water supply as per IS: 4985-2000. **07**

OR

Q.4 (a) Define hardness. Write various methods of measuring hardness of plastics. **07**

Q.4 (b) Mention the various flow properties of plastics, explain any one in detail. **07**

Q.5 (a) Define MFI and write in detail how to find out MFI of PP material. **07**

(b) How will you identify PVC and Nylon-66 materials? **07**

OR

Q.5 (a) Define haze and gloss. Explain the test procedure for determination of gloss. **07**

(b) What is oxygen index? How will you determine it for plastics? **07**

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