

**GUJARAT
TECHNOLOGICAL UNIVERSITY**

M. E. Sem. – IInd - Examination – June/July- 2011

Subject code: 1722401

Subject Name: Plastics Testing Technology

Date: 22/06/2011

Time: 10:30 am – 01:00 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) Define density of plastics. How do you determine it for plastics as per ASTMD792? **07**
(b) Explain the systematic way of identification of plastics by simple method. **07**

- Q.2** (a) What is tensile strength? What are the factors influence the strength of plastic material? Show the stress-strain behavior of various types of plastic material. **07**
(b) Write a short note on any two of the following. a) Creep b) DSC c) Tear strength **07**

OR

- (b) Write down in brief steps of performing ESCR test for plastics. **07**

- Q.3** (a) Define Thermal Conductivity? How do you determine it for plastics by guarded hot plate method? **07**
(b) What are the various types of impact testing and explain its significance? **07**

OR

- Q.3** (a) Define volume resistivity. Describe the method used for measuring volume resistivity of a molded specimen. **07**
(b) Define flexural strength test and its significance. **07**

- Q.4** (a) What is HDT and VST and what do you infer from these properties. **07**
(b) Define MFI. Illustrate how this test is carried out for PP material along with its significance? **07**

OR

- Q.4** (a) Define haze and clarity. Explain test procedure for determination of haze. **07**
(b) What do you mean by a perfect insulator? Describe a method to measure the dielectric strength of an insulating material. **07**

- Q.5** (a) Write in detail about testing of UPVC pipes as per IS-4985-2000 for portable water supply. **07**
(b) Enlist the various tests conducted on plastic films and explain. **07**

OR

- Q.5** (a) Explain the tests generally carried out for HDPE pipes for quality checking with regard to its application for portable water supply as per IS-4984-1995. **07**
(b) Write short notes on a) dissipation factor b) gloss c) MVTR **07**
