

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE SEM-VII Examination-Nov/Dec.-2011

Subject code: 172305

Date: 29/11/2011

Subject Name: Plastic Testing & Instrumental Analysis

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) What is Testing? List out its basic concept and Explain Specification and Standards. **07**
- (b) Define Proportional Limit, Secant Modulus & Yield Point. Show and explain the stress-strain behavior of various types of plastic material. **07**
- Q.2** (a) What is flexural strength? What are the factors influence the flexural strength of plastic material? Provide brief steps for performing flexural test. **07**
- (b) Write a short note on any two of the following. a) Creep b) Stress Relaxation c) Compression Test **07**
- OR**
- (b) What is Tensile Strength? Explain Tensile Test in detail. **07**
- Q.3** (a) Define Thermal Conductivity? How do you determine it for plastics by Guarded hot plate method? **07**
- (b) Define MFI. Explain how this test is carried out for plastics material along With its significance? **07**
- OR**
- Q.3** (a) Explain Dielectric Strength test & Dielectric Constant test. **07**
- (b) Explain Arc Resistance test. **07**
- Q.4** (a) List down & Explain all environment factors that affect Plastic. **07**
- (b) With the help of neat sketch explain Shear Test in detail. **07**
- OR**
- Q.4** (a) Explain HDT test with its test variable & limitation **07**
- (b) Write short note on Durometer hardness test and barcol hardness test. **07**
- Q.5** (a) Explain all factors that affecting the Impact Strength of plastic material. **07**
- (b) Explain Abrasion test in detail. **07**
- OR**
- Q.5** (a) What is Impact Strength? List out types of it? Explain Izod Impact Test. **07**
- (b) Explain Flammability test for non rigid solid plastic & Oxygen index test. **07**
