

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III (NEW) - EXAMINATION – SUMMER 2017****Subject Code: 2132303****Date: 05/06/2017****Subject Name: Basic of Plastic Material Testing****Time: 10:30 AM to 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.

	MARKS
Q.1	14
Short Questions	
1 What is the unit of MFI?	
2 Which of the following is long term property? a) Creep b) Stress Relaxation c) both (a) & (b) d) none of the	
3 What is the unit of Specific Gravity?	
4 Standard test conditions for testing as per ASTM method are _____°C and _____%RH.	
5 Resistance to deformation under constant load with respect to time is called as _____.	
6 Define Toughness	
7 ASTM Test Method for Flexural Strength is _____ a) D 790 b) D 256 c) D 638 d) D 792	
8 R L M E K are the scales used for _____ test	
9 Write full form of NABL.	
10 Which test method is used for Density by Density Gradient Technique? a) ASTM D1525 b) ASTM D792 c) ASTM D1505 d) ASTM D732	
11 Melt Flow Index test is not carried out for PVC-Say True or False	
12 BIS stands for _____.	
13 Write formula for flexural strength	
14 ASTM stands for.....	
Q.2	
(a) What is Basic concept of testing and purpose of testings?	03
(b) Explain the stress-strain curve for PC, POM.	04
(c) Explain the significance, equipments, procedure and factor affecting of Compression moulding for specimen preparation.	07
OR	
(c) Explain the significance, equipments, procedure and factor affecting of injection moulding for specimen preparation of thermoplastic materials.	07
Q.3	
(a) Explain Purpose of Specification and standards.list out international and national standards.	03
(b) What is test condition and conditioning process	04
(c) Explain the Beilstein's test and Floation test for identification analysis of plastics materials	07

OR

- Q.3** (a) Explain the burning test in details to identify the plastic material. **03**
(b) Explain the solubility test in detail for identification of unknown plastics. and write the solvents for the polymers **04**
(c) Explain twin screw extruder and two roll mill for compounding materials **07**
- Q.4** (a) Explain the water absorption test in details **03**
(b) Explain the Drop test and Flootation test in brief. **04**
(c) What is Tensile Strength? Explain Tensile Test in detail **07**

OR

- Q.4** (a) What is the importance of compression test? Explain the test procedure in detail **03**
(b) Write a short note on a) Creep b) Stress Relaxation **04**
(c) What is Flexural strength? Explain the test procedure and factors affecting on test results as per ASTM D 790 **07**
- Q.5** (a) Explain the test method, procedure and factors affecting of cup flow test **03**
(b) Explain generalized stress-strain curve for plastic materials .Also explain related terminology. **04**
(c) What is Impact Strength? List out types of it? Explain Izod Impact Test **07**

OR

- Q.5** (a) Explain the test method, procedure and factors affecting of spiral flow test **03**
(b) Explain the importance and test procedure of MFI. **04**
(c) Explain Rockwell harness test in detail. **07**
