Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER – VI (NEW).EXAMINATION – WINTER 2016

Subject Code: 2162307 **Date: 24/10/2016**

Subject Name: Testing and Identification of Plastic Materials

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.**

Q.1	**(a)**	Explain in details the Basic concepts of testing-specifications and Standards for perform the testing of plastics.	**07**
	(b)	What is Flexural strength? Explain the test procedure and factors affecting on test results as per ASTM D 790.	**07**
Q.2	**(a)**	Explain the significance, equipments, procedure and factor affecting of injection moulding for specimen preparation of thermoplastic materials.	**07**
	(b)	Define tensile strength? What are the factors influence the tensile strength of plastic material? Provide brief steps for performing tensile test	**07**
		OR	
	(b)	Define Proportional Limit & Yield Point. Show and explain the stress-strain behavior of various types of plastic material.	**07**
Q.3	**(a)**	Define VSP. Explain how this test is carried out for plastics material along With its significance?	**07**
	(b)	Explain in details about Differential Scanning Calorimetry (DSC).	**07**
		OR	
Q.3	**(a)**	Define Thermal Conductivity? How do you determine it for plastics by Guarded hot plate method?	**07**
	(b)	Define HDT and explain the test procedure and its significance of the test.	**07**
Q.4	**(a)**	Write short notes on a) Creep b) Stress Relaxation c) Compression Test	**07**
	(b)	What is Impact Strength? List out the various types. Explain Charpy Impact Test.	**07**
		OR	
Q.4	**(a)**	Explain the term Hardness. List the Hardness Tests used for Plastics. Explain Rockwell Hardness Test	**07**
	(b)	Explain in details about Thermo gravimetric Analysis (TGA).	**07**
Q.5	**(a)**	Explain about the environment factors which affect Plastic products & remedies for same with example.	**07**
	(b)	Write short notes on a) Dielectric Constant b)Dissipation factor	**07**
		OR	
Q.5	**(a)**	Explain the significance, equipments, procedure and factor affecting of Compression moulding for specimen preparation.	**07**
	(b)	Write about Flammability test for non rigid solid plastic product.	**07**

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