GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII • EXAMINATION - WINTER 2013

Subject Code: 172305 Date: 03-12-2013			
Subject Name: Plastics Testing and Instrumental Analysis			
Time: 10:30 TO 01:00 Total Marks: 70			
Instructions: 1. Attempt all questions.			
	2. N	Make suitable assumptions wherever necessary. 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)	Sketch and Explain generalized stress-strain curve for plastics .Also explain related terminology.	07
Q.2	(a)	Define tensile strength? What are the factors influence the tensile strength of plastic material? Provide brief steps for performing tensile test.	07
	(b)	Define and explain the term Arc Resistance. Explain procedure to determine Arc Resistance of Plastics with neat sketch. OR	07
	(b)		07
Q.3	(a)	Write in detail about testing of UPVC pipes as per IS-4985-2000 for potable water supply.	07
	(b)	Define HDT and explain the test procedure and its significance of the test. OR	07
Q.3	(a) (b)	Explain ESCR test in detail and its significance of the test. Define Glass transition temperature (Tg) and explain factors affecting Tg.	07 07
Q.4	(a) (b)	Define VSP and explain the test procedure with factors affecting Explain the Term Hardness. List the Hardness Tests used for Plastics. Explain Rockwell Hardness Test. OR	07 07
Q.4	(a)	Define Thermal Conductivity? How do you determine it for plastics by Guarded hot plate method?	07
	(b)	What is Impact Strength? List out types of it? Explain Izod Impact Test.	07
Q.5	(a)	Define Thermal Conductivity. Explain the Test to measure Thermal Conductivity of Plastics with neat sketch.	07
	(b)	Compare: Flexural Test with Tensile Test. Explain factors affecting Tensile Test.	07
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Q.5	(a) (b)	With the help of neat sketch explain Shear Test in detail. Write short notes on: (1) Dielectric Strength (2) Young's Modulus of elasticity	07 07
