Seat No.:	Enrolment No.
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## **GUJARAT TECHNOLOGICAL UNIVERSITY**

BE - SEMESTER-VII • EXAMINATION - SUMMER • 2014

•		ode: 1/2305 Date: 31-0:	5-2014
Subj	ect N	ame: Plastics Testing and Instrumental Analysis	
Time	e: 02:	30 pm - 05:00 pm Total Mar	ks: 70
Instru	ctions:		
		Attempt all questions.	
		Make suitable assumptions wherever necessary.	
	3. H	igures to the right indicate full marks.	
Q.1	(a) Explain in details the Basic concepts of testing-specifications and Standard for perform the testing of plastics.		07
	<b>(b)</b>	What is flexural strength? What are the factors influence the flexural strength of plastic material? Provide brief steps for performing flexural test.	07
<b>Q.2</b>			07
	<b>(b)</b>	Write short notes on	07
		1. Strain 2. Modulus of Elasticity	
		3. Stress 4. Toughness	
		OR	
	<b>(b)</b>	Define tensile strength? What are the factors influence the tensile strength of plastic material? Provide brief steps for performing tensile test.	07
Q.3	(a)	What is Accelerated Weathering Test? Explain Xenon Arc Lamps Test.	07
	<b>(b)</b>	Define MFI. Explain how this test is carried out for plastics material along With its significance?	07
		OR	
Q.3	<b>Q.3</b> (a) Define Thermal Conductivity? How do you determine it for plastics by Guarded hot plate method?		07
	<b>(b)</b>	Explain all factors that affecting the Impact Strength of plastic material.	07
<b>Q.4</b>	(a)	Define HDT and explain the test procedure and its significance of the test.	07
	<b>(b)</b>	Define Glass transition temperature (Tg) and explain factors affecting Tg. <b>OR</b>	07
Q.4	(a)	Define and explain the term Arc Resistance. Explain procedure to determine Arc Resistance of Plastics with neat sketch.	
	<b>(b)</b>		07
Q.5	(a)	Explain the Term Hardness. List the Hardness Tests used for Plastics. Explain Rockwell Hardness Test.	07
	<b>(b)</b>	Explain Flammability test for non rigid plastic & Oxygen index test  OR	07
Q.5	(a)	Explain Thermo-mechanical Analysis in details with an example.	07
	<b>(b)</b>	Explain Accelerated Weathering test with an example.	07

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