Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE –SEMESTER III–(NEW) • EXAMINATION –SUMMER 2015

Subject Code:2132303 **Date:04/06/2015**

Subject Name: Basic of Plastic Material Testing

Time:02.30pm-05.00pm **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 the purpose of testing? What are the general precautions to be taken while testing plastics?	**07**
	(b)	What do ASTM, ISO and BS stand for? Explain the purpose of standards in detail.	**07**
Q.2	**(a)**	Explain specimen preparation from soft plastic sheet and films.	**07**
	(b)	Explain the significance, equipments, procedure and factor affecting of Injection moulding for specimen preparation.	**07**
		OR	
	(b)	Write about (1) Quality control (2) Test condition and conditioning of test specimens.	**07**
Q.3	**(a)**	What is ASTM standard for Flexural Properties? Discuss the three point bending method of determining the flexural properties of plastics.	**07**
	(b)	How do you identify PF, UF and MF using Plastic Identification chart? Discuss.	**07**
		OR	
Q.3	**(a)**	How do you identify PE, PP and PVC using Plastic Identification chart? Discuss.	**07**
	(b)	Give specimen size for compressive strength and describe the method of measurement of compressive strength.	**07**
Q.4	**(a)**	What are stress and strain? Explain the stress-strain behavior of various types of plastic material.	**07**
	(b)	Explain Rockwell hardness test in detail.	**07**
		OR	
Q.4	**(a)**	Define: Yield point, Necking, Stiffness, Modulus of elasticity, Secant modulus, Poission's ratio, Plasticity.	**07**
	(b)	How water absorption of plastic specimens carried out? Explain.	**07**
Q.5	**(a)**	Discuss the method of measurement of Izod impact strength and compare it with the charpy impact test.	**07**
	(b)	What is MFI? Explain test procedure and factors affecting on test results.	**07**
		OR	
Q.5	**(a)**	Explain standard test method to determine density of plastics.	**07**
	(b)	Explain the test method, procedure and factors affecting of spiral flow test.	**07**

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