

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-VI EXAMINATION – WINTER 2025****Subject Code:3162903****Date:02-12-2025****Subject Name:Physical Testing****Time:02:30 PM TO 05:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		Marks
Q.1	(a) Explain the significance of samples in testing.	03
	(b) Define the following terms: Tex, Denier, metric count and English Count.	04
	(c) Classify sampling types. Explain in detail on random sampling.	07
Q.2	(a) Define the terms: Breaking length, strain and tenacity.	03
	(b) Explain the working principle of pressely tester.	04
	(c) Write a brief note on Caustic soda swelling method to determine maturity.	07
	OR	
	(c) Draw neat sketch of arealometer. Also explain principle and working of it.	07
Q.3	(a) Write short note on sling hygrometer	03
	(b) Write short note on Shirley crease recovery tester.	04
	(c) Draw neat sketch of Digital fibrograph also explain working of it.	07
	OR	
Q.3	(a) Explain cantilever principle.	03
	(b) Explain the working principle of Untwist- Retwist type twist tester.	04
	(c) Explain the working of Uster Evenness Tester in detail.	07
Q.4	(a) Define the terms: crimp interchange, crimp% and fabric assistance.	03
	(b) Explain quadrant balance to measure yarn count with neat sketch.	04
	(c) Explain the working Shirley yarn hairiness tester with neat sketch.	07
	OR	
Q.4	(a) Define the term water proof, shower proof, water repellent.	03
	(b) Give the classification of Abrasion test and mention the points required to be consider while performing abrasion resistance test.	04
	(c) Explain with neat sketch Shirley air permeability tester.	07
Q.5	(a) What is work of rupture?	03
	(b) Write short note on drape meter.	04
	(c) Explain with neat sketch Elmendorf tear strength tester.	07
	OR	
Q.5	(a) What is cover factor?	03
	(b) Briefly explain about the sample preparation for tensile strength testing.	04
	(c) Explain with neat diagram the spray test for fabric.	07