

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER- V (New) EXAMINATION – WINTER 2019

Subject Code: 2152906
Date: 21/11/2019
Subject Name: Physical Testing-I
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.

		MARKS
Q.1	(a) Describe the zoning technique for raw cotton sampling.	03
	(b) Enlist & briefly discuss various causes of yarn hairiness.	04
	(c) With the help of neat sketch, explain the Shirley Trash Analyser.	07
Q.2	(a) Define the terms load and breaking load.	03
	(b) Explain the analysis of sorter diagram.	04
	(c) Describe the principle, construction & working of Quadrant yarn balance.	07
	OR	
	(c) Explain about any one twist measurement instrument with a neat sketch, construction, working and principle involved.	07
Q.3	(a) Describe the working of electrolytic hygrometer.	03
	(b) Write a brief note on "Cotton Quality".	04
	(c) Write a brief note on "HVI Testing in Textiles."	07
	OR	
Q.3	(a) Compare CRL and CRE.	03
	(b) How is WIRA rapid drying oven used for measuring moisture in textiles?	04
	(c) With the help of neat sketch, explain the lea strength tester.	07
Q.4	(a) Explain how testing helps in selection of raw material.	03
	(b) With the help of sketch, explain the principle of AFIS.	04
	(c) With the help of neat sketch, explain the construction and working of digital fibrograph.	07
	OR	
Q.4	(a) Name the instruments, which use effects of regain on electrical properties of textile materials.	03
	(b) Briefly, describe any two methods used to measure maturity of cotton fibres.	04
	(c) With the help of neat sketch, explain the construction and working of Sheffield micronaire.	07
Q.5	(a) State different direct yarn numbering systems.	03
	(b) Derive the formula to relate yarn count with TPI.	04
	(c) With the help of neat diagram, describe the significance, principle, construction and working of wrap reel.	07
	OR	
Q.5	(a) Give various expressions for irregularity measurement.	03
	(b) Find the denier of a skein of 100m filament viscose yarn weighing 1.67gm.	04
	(c) Enlist methods to measure yarn hairiness. Explain about construction & working of Shirley yarn hairiness tester with neat sketch.	07
