

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2018****Subject Code:2152906****Date:20/11/2018****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 squaring & cut squaring technique for fibre sampling.	03
	(b) Explain the airflow method for finding fibre fineness.	04
	(c) With the help of necessary sketches, explain the fibrograph for measuring fibre length.	07
Q.2	(a) Give the flowchart for grading system of Indian cotton.	03
	(b) Discuss, how the rapid ovens are used for measuring moisture in textiles.	04
	(c) With the help of neat diagram, explain the construction and working of Beesley balance.	07
OR		
	(c) With the help of neat diagram, describe the WIRA continuous twist tester.	07
Q.3	(a) What do you mean by effective length? How is it related to staple length.	03
	(b) Explain any one hygrometer.	04
	(c) With the help of neat sketch, explain the Shirley Trash Analyser.	07
OR		
Q.3	(a) Describe the tongue sampling technique for wool.	03
	(b) Write a brief note on “Measurement of Maturity”.	04
	(c) With the help of neat sketch, explain the lea strength tester.	07
Q.4	(a) Explain the analysis of sorter diagram.	03
	(b) Describe high volume instrument testing of fibres.	04
	(c) Write a brief note on “Application of AFIS”.	07
OR		
Q.4	(a) List the methods in which the load can be applied wrt. Strength testing of textiles.	03
	(b) Explain the beam balance principle for tensile testing in detail.	04
	(c) With the help of neat sketch, explain the vibrascope.	07
Q.5	(a) Give the conversion of English cotton count to Tex & Denier.	03
	(b) Enlist and describe about types of yarn irregularities.	04
	(c) With the help of neat diagram, explain the construction and working of Quadrant balance.	07
OR		
Q.5	(a) Derive the formula to obtain Twist Factor.	03
	(b) Explain only the working principle involved with Uster evenness tester.	04
	(c) With the help of neat diagram, explain the construction and working of Shirley yarn hairiness tester.	07
