

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) - EXAMINATION – SUMMER 2017****Subject Code: 2152906****Date: 03/05/2017****Subject Name: Physical Testing-I****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.

MARKS

Q.1	Short Questions	14
	1 1 Micronaire = _____ $\mu\text{g}/\text{inch}$.	
	2 1 dtex = _____ Tex.	
	3 Define the term English count.	
	4 If the English count is 40 then what will be Denier count?	
	5 If the English count is 30 then what will be Tex count? A lea of cotton yarn weighs 40 grains. Calculate its count.	
	6 Pressley Tester working on the _____ principle.	
	7 1 Pound (lb) = _____ Kgs.	
	8 Define the term Denier count.	
	9 What is span length?	
	10 Define the term moisture regain & write formula. A lea of cotton yarn weighs 40 grains. Calculate its count.	
	11 If 50% span length = 15 mm & 2.5% span length = 32 mm, Calculate uniformity ratio.	
	12 Define the term Effective length.	
	13 Define the term C.S.P.	
	14 Define the term relative humidity.	
Q.2	(a) Discuss the objectives of Textile testing.	03
	(b) Explain the significance of sample in testing.	04
	(c) Explain the construction and working of Photo electrical stapler with neat sketch.	07
	OR	
	(c) Explain the principle of fibrogram in detail.	07
Q.3	(a) State the different methods used to measure fiber fineness.	03
	(b) Define the term Thin place, Thick place, Neps and Spectrograph.	04
	(c) Explain the instrument working on Air flow principle to measure fiber fineness.	07
	OR	
Q.3	(a) What do you meant by CRE, CRL& CRT?	03
	(b) Define the term Stress, Strain, Yield point and Work of rupture.	04
	(c) Explain the working of Lea tester with neat sketch.	07
Q.4	(a) What is Basic irregularity?	03
	(b) Calculate drawn sliver C.V. %, If undrawn sliver C.V. is 2.1and draw frame sliver C.V. is 3.0%.	04
	(c) Explain the any one twist tester in detail.	07
	OR	
Q.4	(a) State the different methods used to Measure Twist in yarn.	03

- (b) Describe the term Fiber Quality Index. **04**
(c) Explain construction and working of Shirley Trash analyser. **07**
- Q.5** (a) Define short, Medium and long term variation. **03**
(b) Explain Random variation and Periodic variation. **04**
(c) Explain the Uster evenness tester with neat sketch. **07**
- OR**
- Q.5** (a) List the factors affecting Tensile properties of Textiles. **03**
(b) List the different methods for measuring yarn evenness. **04**
(c) Explain the construction and working of Stelometer in detail with neat sketch. **07**
