Seat No.: _____ **Enrolment No._____**

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 = _____ µg/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**

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