

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – SUMMER 2019****Subject Code: 2152906****Date: 03/06/2019****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.

- Q.1** (a) Write objectives of textile testing. **03**
 (b) Explain the significance of samples in testing. **04**
 (c) Explain the construction & principle of working of stelometer with help of neat sketch. **07**
- Q.2** (a) Define the following terms: 1. Tex 2. Denier 3. English Count **03**
 (b) Describe how the airflow method is used for measurement of fibre fineness. **04**
 (c) Write a brief note on “Maturity of cotton fibres & its measurement”. **07**
- OR**
- (c) Discuss the basic principle, construction & working of AFIS. **07**
- Q.3** (a) What is HVI? Which are properties measures by HVI? **03**
 (b) Discuss about “Cotton Quality & Grading”. **04**
 (c) Explain the construction & principle of working of shirley trash analyser with a neat sketch. **07**
- OR**
- Q.3** (a) What do you meant by CRE, CRL& CRT? **03**
 (b) Draw baer sorter diagram and derive various length parameters of cotton fiber. **04**
 (c) Explain with neat sketch, how the moisture regain is measured using Shirley Moisture Meter. **07**
- Q.4** (a) Describe the term Fiber Quality Index. **03**
 (b) What is a short, medium and long term irregularity? **04**
 (c) Define the term “Span Length”. Describe briefly the instrument used to measure it. **07**
- OR**
- Q.4** (a) What is CSP? Discuss importance of CSP in weaving Process. **03**
 (b) Explain quadrant balance to measure yarn count with a neat sketch. **04**
 (c) With the help of neat sketch, explain the principle, construction & working of Lea Strength Tester. **07**
- Q.5** (a) Define Twist. Explain importance of twist. **03**
 (b) Compare Direct and Indirect yarn numbering system. **04**
 (c) With neat sketch, explain Untwist – Retwist type twist tester. **07**
- OR**
- Q.5** (a) Define the terms: Stress, Strain, and Work of rupture. **03**
 (b) Explain in short about yarn hairiness measurement. **04**
 (c) How cutting and weighing method can be used for testing evenness properties of spun yarn? **07**
