

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE – SEMESTER – V (NEW) EXAMINATION – WINTER 2015**

**Subject Code: 2152906****Date: 10/12/2015****Subject Name: Physical Texting - I****Time: 10:30am to 1:00pm****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) Discuss the objectives of Textile Testing. Also explain the significance of samples in testing. **07**
- (b) With the help of necessary figures, describe how the airflow method is used for measurement of fibre fineness. **07**
- Q.2** (a) Write a brief note on “Cotton Quality & Grading”. **07**
- (b) Discuss the basic principle, construction & working of AFIS. **07**
- OR**
- (b) With the help of neat sketch, explain any one instrument used to measure the tensile strength of a single yarn. **07**
- Q.3** (a) Explain the different methods used for determining the maturity of cotton fibres. **07**
- (b) With the help of neat sketch, explain the construction & principle of working of Shirley Photo Electric Stapler. **07**
- OR**
- Q.3** (a) With the help of neat sketches, explain how the moisture regain is measured using CSIRO Direct Reading Regain Tester. **07**
- (b) With the help of neat sketch, explain the construction & principle of working of Stelometer. **07**
- Q.4** (a) Explain importance of twist. Also, with neat sketch explain take-up twist tester. **07**
- (b) With neat sketch explain quadrant balance for determining yarn count. **07**
- OR**
- Q.4** (a) Define the following terms: **06**
1. Tex
  2. Denier
  3. Cotton Count
- (b) Do as directed: **08**
1. If the metric count is 50 then what will be the English cotton count?
  2. If the English cotton count is 30 then what will be the Tex count?
  3. If a skein of 100mt of filament viscose yarn weighs 1.67 gm. calculate its denier.
  4. A lea of cotton yarn weighs 40 grains. Calculate its count.
- Q.5** (a) With neat sketch explain photo electric principle method for measuring hairiness in spun yarn. **07**
- (b) With a neat sketch explain any one instrument for testing yarn evenness based on compression method. **07**
- OR**
- Q.5** (a) With neat sketch explain method for measuring hairiness in spun yarn based on singeing method. **07**

- (b) How cutting and weighing method can be used for testing evenness properties of spun yarn? **07**

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