

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- VIth SEMESTER–EXAMINATION – MAY- 2012****Subject code: 162903****Date: 15/05/2012****Subject Name: Physical Testing****Time: 10:30 am – 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.

- Q.1** (a) What is 'weak link' effect? Establish relationship between the strength, test length and irregularity. **07**
- (b) With neat sketch explain working of Lea CSP strength testing instrument. **07**

- Q.2** (a) Draw the graph of yarn evenness if it has constant short term variation with long term mean variation. What is called normal and inert test? **07**
- (b) How cutting and weighing method can be used for testing evenness properties of spun yarn? **07**

OR

- (b) Define: basic irregularity, index of irregularity, random sample and bias sample. **07**

- Q.3** (a) Explain working of an instrument based on the air flow principle to measure fibre fineness. **07**
- (b) Write briefly on Digital Fibrograph. **07**

OR

- Q.3** (a) With the help of baer sorter diagram, derive various length parameters of cotton fibre. **07**
- (b) With neat sketch explain testing procedure of shirley Trash analyzer. **07**

- Q.4** (a) Briefly explain maturity test by caustic method. **07**
- (b) What is "Fabric assistance"? Also define hairiness index given by Uster and Zweigle. Which parameters are measured by S3, Sh and Hs? **07**

OR

- Q.4** (a) Write in detail on modern fibre testing methods available on HVI. **07**
- (b) Explain method to measure crease recovery property of fabric with diagram. **07**

- Q.5** (a) What are CRL, CRE, CRT and CRS? Also give sample sizes for testing various fibre and yarn properties. **07**
- (b) Write a short note on Electronic twist tester. **07**

OR

- Q.5** (a) With principle explain testing procedure of ballistic strength tester. **07**
- (b) Which parameters affect bursting strength of plain and knitted fabric? Write briefly on bursting strength tester. **07**
