

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE SEM-VII Examination-Nov/Dec.-2011**

**Subject code: 172907**

**Date: 29/11/2011**

**Subject Name: Advanced 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) Explain working of any one instrument for testing crystallinity of the polymers. **07**  
(b) How infrared spectroscopy can be used to elucidate fiber structure? **07**

- Q.2** (a) Write in short on any one instrument for measuring the strength and other related properties of a single filament. **07**  
(b) What is a spectrogram? How it is interpreted? Explain with the help of an example. **07**

**OR**

- (b) Why measuring the yarn tensile strength at a very high speed is important? Write briefly on features of the Tensojet. **07**

- Q.3** (a) Give classification diagram of yarn faults for thick and thin places. How channels are set for long and short thick places. **06**  
(b) Define water vapour permeability and explain working of an instrument for the measurement of the same. **08**

**OR**

- Q.3** (a) Which property is measured by Crockmeter? Write briefly on Crockmeter **06**  
(b) What is meant by fabric fingerprint as given by FAST? Explain with a neat sketch operation of FAST2. **08**

- Q.4** Write in full detail on Kawabata Evaluation System for Fabric properties. **14**

**OR**

- Q.4** Explain main yarn parameters measured by Modern yarn evenness tester. How the parameters are interpreted? **14**

- Q.5** (a) Which important properties are to be measured for geotextiles? Write in short on any one of them. **08**  
(b) How performance of nonwoven fabric meant for medical purposes is evaluated? **06**

**OR**

- Q.5** Write in detail on quality management in Textiles. **14**

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