

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-V • EXAMINATION – SUMMER • 2015**

**Subject Code: 152804****Date: 07/05/2015****Subject Name: Chemical and Physical Analysis of Textiles****Time: 02.30pm-05.00pm****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) Describe how the wrap reel & analytical balance is used for count measurement. **07**  
(b) What do you mean by moisture content & moisture regain. Give the relation between both of them. Explain any one method of measuring moisture in textile material. **07**

- Q.2** (a) Write a brief note on “Measurement of Threads per inch in woven fabric”. **07**  
(b) What is saponification No.? Explain determination of saponification No. **07**

**OR**

- (b) How is the size content determined in textile fabrics. Also discuss the size material which is used for yarn sizing. **07**

- Q.3** (a) What is bending length? How is it related with flexural rigidity and Bending modulus. **07**

- (b) Define the following terms: **07**  
i. Breaking Load & Tenacity  
ii. Tex & Denier

**OR**

- Q.3** (a) With the help of neat sketch, explain any one instrument used to measure twist in yarn. **07**

- (b) Explain briefly the Fabric thickness Gauge. **07**

- Q.4** (a) With the help of neat sketch, explain the principle, construction & working of Pressley bundle fibre strength tester. **07**

- (b) With the help of neat sketch, explain briefly the Drapemeter. **07**

**OR**

- Q.4** (a) Explain in detail any one method used in determination of molecular weight of textile fibres. **07**

- (b) Discuss how the microscopic methods are used for analysis of fibre identification. **07**

- Q.5** (a) Describe in detail, how the identification of textile fibres is done using different chemical reagents. **07**

- (b) Explain in detail, how determination of the formaldehyde in fabric treated with cross linking agent, is done. **07**

**OR**

- Q.5** (a) Discuss the different methods used to find the melting point of textile fibres **07**

- (b) With the help of neat sketch, explain the principle, construction & working of Shirley trash analyser. **07**

\*\*\*\*\*