

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-V • EXAMINATION – WINTER 2013**

**Subject Code: 152804****Date: 02-12-2013****Subject Name: Chemical and Physical Analysis of Textiles****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) With the help of neat sketch, explain briefly the Wet & Dry Bulb hygrometer. **07**  
(b) With the help of neat sketch, explain briefly the Wrap Reel. Also state its function. **07**
- Q.2** (a) What do you mean by moisture regain. With the help of neat sketches, explain how conditioning oven is used to measure moisture regain in textiles. **07**  
(b) Explain how, chemical & mechanical methods are used for determination of the blend content of textiles. **07**
- OR**
- (b) Discuss how the microscopic methods are used for analysis of fibre identification. **07**
- Q.3** (a) Explain how, yarn unevenness is assessed by visual examination. **07**  
(b) Write a brief note on “Measurement of Crease recovery”. **07**
- OR**
- Q.3** (a) Briefly describe the rock bank twist tester. **07**  
(b) With the help of neat sketches, explain the air permeability tester. **07**
- Q.4** (a) With the help of neat sketch, explain briefly the Tearing strength Tester. **07**  
(b) With the help of neat sketch, explain briefly the Drapemeter. **07**
- OR**
- Q.4** (a) Define the following terms: **07**  
i. Breaking Load & Tenacity  
ii. Tex & Denier  
(b) Write a brief note on “Measurement of Maturity of cotton fibres”. **07**
- Q.5** (a) Explain in detail any one method used in determination of molecular weight of textile fibres. **07**  
(b) Discuss in detail the burning & chemical behavior of any three synthetic fibres. **07**
- OR**
- Q.5** (a) Describe in detail, how the identification of textile fibres is done using different chemical reagents. **07**  
(b) Define saponification No.? Describe its determination in detail. **07**

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