

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER- III• EXAMINATION – WINTER 2014

Subject Code: 132904**Date: 30-12-2014****Subject Name: Textile Processing I****Time: 02.30 pm - 05.00 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 are the functions of a bleaching department? Explain briefly tendering or degradation of bleached fabric with possible causes from singeing to bleaching. Describe briefly the different methods of estimating degradation of the bleached fabric. **07**
- (b) What is dyeing? What are main objectives of a dyeing department? Classify dyes according to application. Give the name of dyes suitable for important textile fibres. **07**
- Q.2** (a) What is singeing? Discuss the need of singeing process. Describe in detail the process of gas singeing. **07**
- (b) What is desizing and why it is needed? Describe the method of enzymatic desizing of cellulosic fabrics with its merits and demerits. **07**
- OR**
- (b) Discuss the need of scouring treatment with the principal phenomenon involved in it. **07**
- Q.3** (a) Describe the process of scouring cotton fabrics using pressure kier method. **07**
- (b) Justify the significance of J-box in scouring of cellulose and their blends with the help of proper sketch and process sequence and parameters. **07**
- OR**
- Q.3** Discuss the factors affecting rate of dyeing and describe any two from the following dyeing machines : **14**
- (i) Jigger (ii) Jet (iii) Winch.
- Q.4** What are the main objectives of a dyeing department? Explain the following terms and establish relationship among them : **14**
1. Shade percentage 2. M.L.R.
 3. Concentration of a dye bath 4. Exhaustion of a dye bath.
- OR**
- Q.4** (a) What does the name Direct Dyes indicate? Describe the process of dyeing cotton with direct dyes with its advantages and disadvantages. **07**
- (b) What is meant by name Reactive dyes? Give the types of reactive dyes. Describe the process of dyeing cotton with any one class of reactive dyes. **07**
- Q.5** (a) Describe any two after treatment for improving fastness properties of direct dye. **07**
- (b) Explain the process of vat dyeing of cotton fabrics by exhaust method with the chemical reactions involved. **07**
- OR**
- Q.5** (a) With objects and principle of mercerization, discuss chainless pad less mercerizer. **07**
- (b) Discuss the engineering and technological aspects of various types of padding mangles. **07**
