

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V • EXAMINATION – SUMMER • 2014****Subject Code: 152803****Date: 19-06-2014****Subject Name: Analytical Textile Chemistry- I****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 solids and turbidity in water? Discuss their harmful effects on textile processing. **07**
- (b) Describe the test methods for determination of color and dissolved solids in water. **07**
- Q.2** (a) Discuss about the acidity and alkalinity in water and their different types. Describe the method to determine alkalinity of a water sample. **07**
- (b) Describe the method for determination of dissolved oxygen in a water or effluent sample. Explain how it can be used for determination of BOD. **07**
- OR**
- (b) What is carbonate and non carbonate hardness? Give the methods for determination of total and temporary hardness. **07**
- Q.3** (a) Explain the thiocyanate method for determination of iron content in water. **07**
- (b) With significance, describe the test methods for volatility, cloud point and pour point of oils. **07**
- OR**
- Q.3** (a) Define calorific value with its units. Give neat sketch of bomb calorimeter and explain only the calculations involved in determination of calorific value of coal. **07**
- (b) Give the test methods for determination of moisture, volatile matter, ash and fixed carbon of a coal sample. **07**
- Q.4** (a) Describe in brief the principle and working of Engler's viscometer with neat sketch. **07**
- (b) With neat sketch discuss the principle and working of pH meter. **07**
- OR**
- Q.4** (a) Explain the test procedure of paper chromatography and its significance in analytical textile chemistry. **10**
- (b) Give the method for determination of purity of sodium hypochlorite. **04**
- Q.5** (a) Give the points of difference between normal titrations and conductometric titration. Describe procedure for conductometric titration of strong acid against strong base. **10**
- (b) Give the method for determination of purity of Hydros. **04**
- OR**
- Q.5** (a) Discuss, in brief, various stages of development in spectroscopy. **10**
- (b) Give the test method for determination of % purity of Soda ash. **04**

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