

GUJARAT TECHNOLOGICAL UNIVERSITY**BE SEM-V Examination-Nov/Dec.-2011****Subject code: 152803****Date: 26/11/2011****Subject Name: Analytical Textile Chemistry- I****Time: 2.30 pm -5.00 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 what is carbonate and non carbonate hardness in water. Give the method, with the principal involved, for determination of total hardness of water. **07**

(b) Describe in brief, the method for determination of gross calorific value of coal. **07**

Q.2 (a) Discuss the effect of turbidity and solids on textile wet processing. Give the methods for determination of Total Dissolved Solids, Fixed Dissolved Solids and Volatile Solids in water. **07**

(b) Give the methods and calculations for determination of acidity and alkalinity present in water. **07**

OR

(b) Explain the colorimetric method for determination of Iron content of water. **07**

Q.3 (a) What are BOD and COD? What is the significance of its determination? Give the method for determination of COD of an industrial effluent. **07**

(b) Describe the method for determination of dissolved oxygen content of an effluent sample. **07**

OR

Q.3 (a) Explain proximate analysis of coal. **07**

(b) With principle, describe the working of Brookfield viscometer and its use in analysis of lubricating oils. **07**

Q.4 (a) Give the testing methods for determination of consistency of a grease sample and cloud point of an oil. **07**

(b) Describe the testing methods for flash point and fire point of oil. **07**

OR

Q.4 (a) Discuss the construction of pH meter using glass electrode and its use in analytical chemistry. **07**

Q.4 (b) With principle, explain the method and textile use of paper chromatography. **07**

Q.5 (a) Describe the methods of conductometric titrations and its importance in field of analytical textile chemistry. **07**

(b) Explain the concept of spectroscopy and its use in field of analytical textile chemistry. **07**

OR

Q.5 (a) Give the testing methods for determination of % purity of "Sodium Hypochlorite" and "Hydro". **07**

(b) Give the testing procedures for determination of % purity of "Citric Acid" and "Sodium Hydroxide". **07**
