

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- Vth SEMESTER-EXAMINATION – MAY/JUNE - 2012****Subject code: 152803****Date: 04/06/2012****Subject Name: Analytical Textile Chemistry - 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) Discuss proximate analysis of coal in detail. **07**
(b) Give the definition of calorific value. Explain in detail gross calorific value and net calorific value. **07**

- Q.2** (a) Enlist various constituents of water. Discuss the detrimental effect of non metallic and metallic hardness in textile processing. **07**
(b) Give the difference of BOD and COD. Give the method of determination of COD of an effluent. **07**

OR

- (b) Discuss test methods for determination of consistency and drop point of lubricants. **07**

- Q.3** (a) Discuss test methods for determination of Fire point and Flash point of lubricants. **07**
(b) Discuss about potentiometric titration in detail. **07**

OR

- Q.3** (a) Discuss test methods for determination of acid number and saponification number of lubricants. **07**
(b) Describe the types of hardness of the water. Give the method for determination of total hardness. **07**

- Q.4** Discuss ultimate analysis of coal in detail. Explain bomb calorimeter with neat sketch. **14**

OR

- Q.4** Explain Red-wood viscometer in detail with neat sketch. **14**

- Q.5** (a) Discuss test methods for determination of acidity of water sample. **07**
(b) Discuss test methods for determination of iron content of water sample. **07**

OR

- Q.5** (a) Discuss test methods for determination of alkalinity of water sample. **07**
(b) Discuss test methods for determination of manganese content of water sample. **07**
