Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–V • EXAMINATION – WINTER 2013

Subject Code: 152803 Date: 04-12-2013

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)** Answer the following OBJECTIVE questions: **07**

i. Name the main reagent used for colorimetric estimation of iron in water.

ii. Correlate the volatile matter to flame height.

iii. Enlist two indicators used for Acid-Base titrations.

iv. Define flash point.

v. _____ is the highly impure source of water.

vi. The tolerance limit for hardness is _____ for wet processing.

vii. Differentiate between Iodometry and Iodimetry titrations.

(b) Give the test methods for determination of iron content of water including some major detrimental effects of iron in wet processing. **07**

Q.2 **(a)** Discuss the ultimate analysis of coal in detail. **07**

(b) Write the role of Hydro in textile processing. Give the test method to find its % purity with the principle involved. **07**

OR

(b) Give the significance of spectrophotometry in analytical field with details of its components. **07**

Q.3 **(a)** With significance, explain the test methods for determination of following parameters for lubricants: **10**

i) Consistancy value **ii)** Saponification Number **iii)** Aniline Point

(b) Write a short note on 'Glass electrode'. **04**

OR

Q.3 **(a)** Define acidity and alkalinity in context to water. Elaborately discuss the test methods to determine acidity and alkalinity of water samples. **10**

(b) Write a short note on 'Turbidity and its measurement' for water. **04**

Q.4 **(a)** Depict the construction of Bomb calorimeter in depth. **10**

(b) Give the test method to determine % purity of acetic acid. **04**

OR

Q.4 **(a)** Explain about different conductometric titrations in detail. **07**

(b) Show the construction and working of Redwood viscometer with the principle involved. **07**

Q.5 **(a)** Discuss the harmful effects of Various constituents of water in various textile wet processes. **10**

(b) Explain the method to find silica content of water sample. **04**

OR

Q.5 **(a)** Describe the method for determination of D.O. in effluent. **07**

(b) What is the principle of chromatography? Elaborately describe Paper chromatography technique. **07**

****