| Seat No.: Enrolment No. |
|-------------------------|
|-------------------------|

GUJARAT TECHNOLOGICAL UNIVERSITY

Subject Code: 2152803

Instructions:

Time: 10:30am to 1:00pm

1. Attempt all questions.

Subject Name: Analytical Textile Chemistry - I

3. Figures to the right indicate full marks.

Make suitable assumptions wherever necessary.

BE – SEMESTER – V (NEW) EXAMINATION – WINTER 2015

Date:05/12/2015

Total Marks: 70

07 0.1 **Answer the following OBJECTIVE questions:** (a) i. Phenolphthalein indicator works in pH range. Hazen is a unit to measure _____ of water. Sequestering agents are evaluated by their gas is filled in bomb of bomb calorimeter. iv. v. Peel strength is used to determine _____ power of sizing agent. vi. Name the reagent used for determination hardness of water. _ test is used to determine wetting power of a wetting agent. **(b)** Give the test methods for determination of acidity in a water sample. **07 Q.2** Name various methods used for determination of hardness of water, Describe the 07 (a) most versatile method for determination of total hardness. Discuss about various types of hardness and its relationship with alkalinity in 07 **(b)** water. Describe colorimetric method for determination of copper content in water. **07** Give test methods to test lubricant oils for their aniline point and cloud point. 0.3 07 (a) Describe construction and working of Penetrometer with its significance in **(b) 07** testing of lubricant. OR Elaborately describe the use of Bomb calorimeter in analysis of coal. **Q.3** (a) 09 Discuss the test methods involved in ultimate analysis of coal. **(b)** 05 (a) Describe the method for determination of Chloride content in water. 07 **Q.4** Give the test method to determine % purity of Hydrogen Peroxide and Sodium 07 **(b)** Hypochlorite. OR Explain the significance, principle and method of TLC. **07 Q.4** (a) Discuss the principle and working of conductometer with its significance in field **(b)** 07 of analytical textile chemistry. Explain the term BOD and give the method for determination of BOD for an **Q.5** (a) 09 effluent sample. Discuss the construction and working of Redwood viscometer. 05 **(b)** OR Give the test methods for determination of Flash point and Fire point of an oil **Q.5** (a) **06** sample. **(b)** Discuss the principle of Spectroscopy. Name various spectroscopic techniques 08 used in analytical chemistry. Brief about IR spectroscopy.