

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V (NEW) - EXAMINATION – SUMMER 2016****Subject Code:2152803****Date:06/05/2016****Subject Name:Analytical Textile Chemistry -I****Time:02:30 PM to 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) Answer the following OBJECTIVE questions: 07**
- i. Name the two popular indicators used for acid-alkali titration.
  - ii. Differentiate between iodimetry and iodometry.
  - iii. Name the indicator used in iodometry.
  - iv. What does the iodine number indicate?
  - v. What does the flash point indicate?
  - vi. What is meant by bomb washings?
  - vii. Nessler tubes are used for \_\_\_\_\_ analysis.
- (b) Give the test method for determination of silica content in water. 07**
- Q.2 (a) Enlist various constituents in water which are harmful to textile processing. 07**  
Discuss detrimental effect of any two constituents on wet processing of textiles.
- (b) Discuss in detail about various types of hardness and its relationship with alkalinity in water. 07**
- OR**
- (b) Describe the method for determination of total hardness in water. 07**
- Q.3 (a) Name the tests carried out to perform analysis of lubricant oil. Describe the methods for finding degree of instauration in oil and its flow properties. 09**
- (b) Discuss the method to determine yield value of grease sample. 05**
- OR**
- Q.3 (a) Give the calculations for determination of calorific value of coal by using bomb calorimeter with neat sketch. 08**
- (b) Differentiate between proximate and ultimate analysis of coal. Describe proximate analysis in detail. 06**
- Q.4 (a) Brief about the principle and working technique of paper chromatography and thin layer chromatography. 09**
- (b) Explain the principle of spectroscopy and name the various types of it. 05**
- OR**
- Q.4 (a) Describe in detail the application of conductometry in field of analytical textile chemistry. 07**
- (b) Discuss the principle and applications of potentiometry in analytical textile chemistry. 07**
- Q.5 (a) Discuss the concept of BOD with method for its determination with various chemical reactions taking place during the process of biodegradation. 08**
- (b) Name various viscometers. Discuss the working of viscometer which gives direct and absolute measure of viscosity. 06**
- OR**
- Q.5 (a) Describe the principle and method for determination of COD of an effluent sample. 06**
- (b) Give the test methods for determination of purity of Hydros and Hypochlorite. 08**