Subject Code: 152803

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V • EXAMINATION - SUMMER • 2014

Date: 19-06-2014

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** What is solids and turbidity in water? Discuss their harmful effects on textile 07 processing. (b) Describe the test methods for determination of color and dissolved solids in 07 water. **Q.2** (a) Discuss about the acidity and alkalinity in water and their different types. 07 Describe the method to determine alkalinity of a water sample. (b) Describe the method for determination of dissolved oxygen in a water or 07 effluent sample. Explain how it can be used for determination of BOD. **(b)** What is carbonate and non carbonate hardness? Give the methods for 07 determination of total and temporary hardness. **Q.3** (a) Explain the thiocyanate method for determination of iron content in water. **07** With significance, describe the test methods for volatility, cloud point and 07 pour point of oils. OR Define calorific value with its units. Give neat sketch of bomb calorimeter and 07 0.3 explain only the calculations involved in determination of calorific value of coal. (b) Give the test methods for determination of moisture, volatile matter, ash and 07 fixed carbon of a coal sample. **Q.4** Describe in brief the principle and working of Engler's viscometer with neat 07 sketch. **(b)** With neat sketch discuss the principle and working of pH meter. 07 **Q.4** (a) Explain the test procedure of paper chromatography and its significance in **10** analytical textile chemistry. (b) Give the method for determination of purity of sodium hypochlorite. 04 Give the points of difference between normal titrations and conductometric 10 **Q.5** titration. Describe procedure for conductometric titration of strong acid against strong base. **(b)** Give the method for determination of purity of Hydros. 04 OR **Q.5** Discuss, in brief, various stages of development in spectroscopy. (a) **10** (b) Give the test method for determination of % purity of Soda ash. 04
