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RN-6883

B. E. - III (Sem. V) (TP) Examination

May / June – 2010

Analytical Textile Chemistry - I

Time : **3** Hours] [Total Marks : **100**

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **B. E. - 3 (Sem. 5) (TP)**

Name of the Subject :

☛ **Analytical Textile Chemistry - 1**

☛ Subject Code No. : **6 8 8 3** ☛ Section No. (1, 2,.....) : **1&2**

Seat No. :

Student's Signature

(2) Answers to the **two** sections must be written in **separate** answer books.

(3) Tie two sections **separately**.

(4) Figures to the right indicate full marks.

SECTION - I

1 (a) Answer the following objective questions : **10**

(i) What is the use of Hazen units?

(ii) _____ meter used for measuring turbidity in water.

(iii) KCNS reagent is used in determination of _____ content in water.

(iv) Name the two water softening agents.

(v) Iodine solution is generally titrated against _____ reagent.

(vi) Colorimetric measurements are done at λ_{max}, true or false?

(vii) Silver nitrate is used in determination of _____ content of water.

(viii) Temporary hardness of water can be removed by _____.

(ix) BOD is a measure of _____.

(x) BOD is always _____ than COD.

(b) In brief, explain the method for determination of calorific value of coal. **10**

2 Describe the various defects/damages caused by different constituents in water. **15**

OR

2 With the significance and principle, explain the method for determination of BOD of an industrial effluent based on dissolved oxygen content. **15**

3 Write short notes : (any **three**) **15**

(a) Determination of total hardness

(b) Determination of "Cu' content.

(c) Nitrogen content in coal and its determination.

(d) % purity determination of sodium hydrosulphite and sodium sulphide.

SECTION - II

4 (a) Answer the following objective questions : **10**

(i) Iodine value is a measure of _____ in oil.

(ii) What is basic difference in Redwood and Brookfield viscometer?

(iii) Which electrode is used in pH meter?

(iv) Paper chromatography is used to check _____ of dyestuff.

(v) _____ reagent used for identification of an anionic surfactant.

(vi) Drave's test is used to measure _____ of surfactant.

(vii) Name the test carried out for evaluation of a grease sample.

(viii) The potential of standard hydrogen electrode is _____.

(ix) Name the titrations which do not require indicators.

(x) Define acid number.

(b) Discuss the technological aspects of IR spectroscopy and its use in textile field. **10**

5 Enlist the various test carried out for analysis of lubricating oils. Give the test methods for each of them. **15**

OR

5 Describe the methods of paper chromatography and TLC with principle and significance. **15**

6 Write short notes : (any **three**) **15**

(a) Potentiometric titrations

(b) Conductometric titrations

(c) Determination of % purity of sodium sulphoxylate formaldehyde

(d) Drave's test.