(Following Paper ID and Roll No. to be filled in your Answer Books)

Paper ID : 187415   Roll No.

B.TECH.

Theory Examination (Semester-IV) 2015-16

INDUSTRIAL CHEMISTRY

Time : 3 Hours   *Max. Mar : 100*

Note: **(1) Attempt all questions.**

     (2) All questions carry equal marks.

1. **Attempt any four parts of the following:**   **(5x4=20)**

    (a)   What do you mean by activation energy? Explain with suitable example.

    (b)   What are iyophylic and iyop'nobic sols? Discuss with suitable example.

    (c)   What are consecutive reactions?

    (d)   Establish a correlation between molecular weight and boiling points of compound with suitable examples.

(e) How will you perform the conformation analysis of ethane and Cyclohexane?

(f) Define the term 'surface tension'. How' is it measured experimentally?

2. Attempt any two parts of the following: (10x2=20)

(a) Explain the kinetics of opposing reactions.

(b) Give the mechanism and kinetics of enzyme catalyzed reactions.

(c) State the following reaction with reference to phenol and give mechanism in each case.

(i) Gattermann reaction

(ii) Lederer Manasee Reaction

3. Attempt any four parts of the following: (5x4=20)

(a) How will you distinguish primary secondary and tertiary alcohol? Discuss any one method.

(b) Write a short note on Epimer w ith suitable example.

(c) What is the principle of fractional distillation? Discuss w ith suitable example.

1   (2)   P.T.O.

(d) What are conformations? Explain the conformation of 1.2 dimethyl cyclohexane.

(e) Write a short note on thin layer chromatography.

(f) What happens when glucose is treated with-

(i) Methanol in the presence HC1

(ii) Cone. HNO_3

4. Attempt any two parts of the following: (10x2=20)

(a) Define Gold number. The Gold Numbers of A, B, C and D are 0.005, 0.05, 0.5 and 5.0 respectively. Which of these has the greatest protective action? Explain your answer.

(b) Explain the term peptide bonding in protein. What do you know about the structure of protein?

(c) (i) Discuss the origin of charge on the colloidal particle.

(ii) Classify the following sols according to charge-Gold. Fe-Fe (OFI)3. As;S3

5.   **Attempt any two parts of the following:**   **(5x4=20)**

(a)   Discuss the structure and reactivity of "Diazomethane".

(b)   What are heterocyclic compound? Explain the structure of p\ridine.

(c)   What is adsorption? Differentiate between adsorption isotherm and adsorption isobar.

(d)   Write short note on Lucas reagent.

(e)   Outline the Gabbriel S\nthesis for amino acid.

(f)   Discuss the Geometrical isomerism of Maleic and Fumaric acid.