II - Mid Term Examination 2014-15

Subject: Engg. Chemistry
Time: 90 Min

Paper Code: AHC-101
Max. Marks: 20

Section – A

Note: Attempt All Five Questions   1*5 = 5 Marks

Ques.1. Define- Degree of freedom.

Ques.2. Calculate pH of 0.0001M HCl solution.

Ques.3. Write monomers of Terylene.

Ques.4. What is flash point?

Ques.5. What is potable water?

Sectiont B

Note: Attempt Any Three Question   2*3= 6 Marks

Ques.1. Calculate pH of one litre of solution containing 0.2M NH_4OH and 0.25 M NH_4Cl solution. K_b for NH_4OH is 1.8×10^{-5}.

Ques.2. Write a note on Tacticity.

Ques.3. What do you mean by hardness of water? How temporary hardness of water can be removed?

Ques.4. The hardness of 40,000 litres of a water sample was removed by passing it through a zeolite softener. The softener then required 150 litres of NaCl solution containing 150 gm/litre of NaCl for regeneration. Calculate the hardness of the sample water.

Sectiont C

Note: Attempt Any Three Question   3*3= 9 Marks

Ques.1. Draw a neat labeled phase diagram of water system and explain the areas and curve on it.

Ques.2. Write stepwise mechanism of cationic addition polymerization process.

Ques.3. Discuss the mechanism of thick film lubrication. Give two example of solid lubricants.

Ques.4. Discuss the Zeolite process for the treatment of hard water. Write down the advantages and limitations of Zeolite process also.