Code No: 09A1BS03 **R09** **Set No. 1**

I B.Tech Regular Examinations,JUNE 2010
ENGINEERING CHEMISTRY
Common to CE, ME, CHEM, BME, IT, MECT, MEP, AE, BT, AME, ICE, E.COMP.E, MMT, ETM, EIE, CSE, ECE, EEE

Time: 3 hours **Max Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Explain the electrochemical theory of corrosion of metals with special reference to rusting of iron.
   (b) Write a note on galvanizing and metal cladding. [8+7]
2. Write a brief account on the following:
   (a) Wet Process for the manufacture of cement.
   (b) Setting and hardening of cement. [8+7]
3. (a) What are colloids? How are they classified?
   (b) Differentiate the dispersed phase from dispersion medium. [8+7]
4. What is meant by cracking of hydrocarbons? What are its objectives? With the help of neat sketches explain the production of petrol by catalytic cracking. [15]
5. Give proper explanations for the following statements
   (a) The fusion curve of ice has a negative slope whereas the sublimation curve has positive slope in the phase diagram
   (b) In lead-silver system, isobaric phase diagrams are studied. [7+8]
6. Explain the synthetic methods, properties and applications of the following elastomers:-
   (a) Buna-S rubber
   (b) Butyl rubber
   (c) Thiokol rubber. [5+5+5]
7. (a) Differentiate between lime-soda and zeolite processes for softening of water giving merits and demerits of the two processes.
   (b) How is the hardness of water expressed? What are the various units employed? Explain their interconversion. [9+6]
8. (a) Give reasons for the following statements:-
      i. When a zinc rod is dipped in a solution of aq. copper sulphate, copper is precipitated out.

ii. Nerrist equation is applicable for the determination of emf of a concentration cell.

(b) State and explain the Kohlrauschs law and its applications. [6+9]

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