Code No: 9ABS103 **R09**

I Year B.Tech(R09) Supplementary Examinations, December 2010.
ENGINEERING CHEMISTRY
(Common to Aeronautical Engineering, Biotechnology, Civil Engineering, Mechanical Engineering, Computer Science & Engineering, Electronics & Communication Engineering, Electrical & Electronics Engineering, Electronics & Control Engineering, Electronics & Computer Engineering, Electronics & Instrumentation Engineering, Information Technology, Computer Science & Systems Engineering,)

Time: 3 hours **Max Marks: 70**

Answer any FIVE questions
All questions carry equal marks

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1. (a) What are the reactions takes place in the estimation of chlorine present in water?
   (b) Explain the procedure involved in the determination of chlorine present in water.
2. Explain the following:
   (a) Nickel electroplating
   (b) Copper electro less plating
3. (a) Explain the condensation polymerization with suitable examples.
   (b) Discuss the functions of various ingredients used in the compounding of rubber.
4. Write a short note on:
   (a) Saponification number.
   (b) Neutralization number.
   (c) Aniline point.
5. (a) The equivalent conductance of a 0.005N NaOH solution is 240 mho/cm^2. What is the specific conductance and electrical resistance if the electrodes are 1 cm apart and each have a surface area of 1 cm^2?
   (b) On what factors does the conductance of a solution depend? How would you proceed to determine the conductivity of a solution.
6. (a) Explain with valid reasons for the following statements with suitable example.
      i. Vapour pressure contribute to the composition in a two component system
      ii. Eutectic point and triple point are the same.
   (b) Identify the number of phases and components involved in each of the following systems:
      i. Decomposition of $CaCO_3$.
      ii. Decomposition of PCl_5.
7. (a) Explain higher calorific value and lower calorific value and distinguish between the HCV & LCV.
   (b) What are the characteristics of a good fuel?
8. (a) Outline the importance of refractories and their applications.
   (b) Discuss the criteria of a good refractory material?

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