Code No: 09A1BS03 **R09** **Set No. 3**

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) What are fuels? How are they classified? What are the advantages of gaseous fuels?
   (b) Give an account of the anlysis of coal by ultimate analysis and its significance. [7+8]
2. (a) How are metals protected by impressed current method?
   (b) Explain the galvanisation and tinning processes of metals. [6+9]
3. Differentiate the following with suitable examples:-
   (a) Polymer from monomer
   (b) Homo polymer from co-polymer
   (c) Step growth polymerization from chain polymersation. [5+4+6]
4. (a) Define the terms specific, equivalent and molar conductivities. How do they vary with dilution.
   (b) Calculate the cell constant of a cell having a solution of concentration N/30 gm. equiv/litre of an electrolyte which showed the equivalent conductance of 120 Mhoscm^2 gm equiv^{-1}. [8+7]
5. (a) Explain the various reasons for failure of a refractory material.
   (b) Differentiate refractories from insulators. [7+8]
6. (a) Write a note on complexometric titrations used for estimation of hardness of water by EDTA.
   (b) Explain the process of electrodialysis. [8+7]
7. Explain how iron-carbon phase diagram provides information about the formation of different phases in iron-carbide system. [15]
8. What are fullerenes? Present an account of applications of fullerenes. [15]

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