

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**

1. (a) What are fuels? How are they classified? What are the advantages of gaseous fuels?
(b) Give an account of the analysis 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 polymerisation. [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 $120 \text{ Mhos cm}^2 \text{ gm equiv}^{-1}$. [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 electro dialysis. [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]
