

II B.Tech I Semester Supplementary Examinations, November 2006
BIO-CHEMISTRY
(Bio-Medical Engineering)

Time: 3 hours**Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Define cell constant.
(b) Explain how does cell constant help in measuring the conductivity of an electrolyte.
(c) The specific conductance of 0.1 normal solution of an electrolyte is $0.002 \text{ mhos cm}^{-1}$. When it is taken in a conductivity cell, it offers a resistance of 300ohms. Find out the cell constant of the cell.
2. (a) Differentiate between addition and condensation polymerization with suitable examples.
(b) Describe the manufacture of polyethylene by the free-radical process. [16]
3. Describe the experimental methods for the determination of the following properties of a lubricating oil:
(a) Carbon residue
(b) Viscosity
(c) Flash point. [16]
4. (a) What are demineralizers? Give examples. Explain softening of hard water by ion-exchange method for boiler feed water.
(b) The hardness of 50,000 litres of a sample of water was removed by passing through a zeolite softener. The softener then required 200 litres of NaCl solution containing 150 g/litre of NaCl for regeneration. Calculate the hardness of the sample of water. [16]
5. (a) Define a living cell and draw a neat diagram of a plant cell along with the organelles.
(b) How the fractionation of cell organelles is carried out by centrifugation method? [16]
6. (a) Define enzyme? How it functions?
(b) Explain the factors which influence the rate of enzymic reaction. [6+10]
7. Describe the formation and fate of acetyl co A. [16]
8. Write short notes on:
(a) Plasma cholesterol

(b) Protinuria

(c) Anaemia.

[16]

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