

S.Y.B.Sc. (With Credits)-Regular-Semester 2012 Sem IV
B.Sc.2482 - Biochemistry-II (Biophysical and Biochemical Techniques-II)
Paper-II

P. Pages : 2

Time : Three Hours



GUG/W/16/5593

Max. Marks : 50

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- Notes : 1. All questions are compulsory and carry equal marks.
2. Draw diagrams wherever necessary.

1. Discuss the various factors affecting electrophoretic mobility. 10

OR

Give a detailed account of disc-gel electrophoresis with its applications. 10

2. Describe in detail how Geiger-Muller counter can be used to detect α and β particles by gas ionization method. 10

OR

Describe in detail the principle and working of analytical ultracentrifugation. What are its applications? 10

3. a) What are the advantages of cellulose acetate electrophoresis over paper electrophoresis? 2½

b) What are solubilizers? what is the role of SDS in electrophoresis? 2½

c) Describe different pattern of radioactive decay. 2½

d) What are various types of centrifuges? When are they used? 2½

OR

e) Write a note on high voltage electrophoresis. 2½

f) Briefly describe the applications of SDS – PAGE electrophoresis. 2½

g) Describe in brief the mass spectrometry technique. What are its applications? 2½

h) Explain why the RCF felt by a particle during centrifugation keeps on changing? 2½

4. a) What are the different methods of detection of separated components after electrophoresis? 2½

b) Write a note on use of ampholytes in isoelectric focussing. 2½

c) Give brief description of autoradiography. 2½

d) Describe how different cell components can be separated by centrifugation. 2½

OR

- e) Briefly describe the separation of plasma proteins by paper electrophoresis. 2½
- f) Write a note on radioimmunoassay. 2½
- g) Write a note on Cerenkov radiation. 2½
- h) Briefly describe the technique of isopycnic centrifugation. 2½

5. Attempt **any ten** of the following.

- a) What is electrophoresis? 1
- b) Name any two buffer systems used in paper electrophoresis. 1
- c) Name any two types of natural gels used in gel electrophoresis. 1
- d) Name the components of polyacrylamide gel. 1
- e) Define immunodiffusion. 1
- f) Give the full form of ELISA? 1
- g) What is the application of flour in scintillation counters? 1
- h) What is meant by background count? 1
- i) Name the isotopes used in cancer therapy. 1
- j) What is sedimentation coefficient? 1
- k) What is rate zonal centrifugation? 1
- l) Name any two materials used for preparing density gradients. 1
