

B.Sc. S.Y. (CBCS Pattern) Semester - IV  
**USBCT-C08 - Biochemistry Paper-II**  
**(Biophysical and Biochemical Techniques-II)**

P. Pages : 2

Time : Three Hours



**GUG/S/23/11999**

Max. Marks : 50

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Notes : 1. All questions are compulsory and carry equal marks.

1. Discuss in detail Paper electrophoresis. 10

**OR**

a) Write a note on factors affecting mobility in electrophoresis. 2½

b) What is solubilizer? Explain with two example. 2½

c) Write a note on gels used in electrophoresis. 2½

d) Enlist the application of gel electrophoresis. 2½

2. Give a detailed account of principle and procedure of SDS-PAGE electrophoresis. 10

**OR**

a) Write note on ELISA. 2½

b) Explain the principle of disc-gel electrophoresis. 2½

c) Give the principle of isoelectric focusing. 2½

d) Write a note on High voltage electrophoresis. 2½

3. Discuss in detail the technique of scintillation counting with its advantages. 10

**OR**

a) Write a note on Rate of radioactive decay. 2½

b) Discuss the types of isotopes. 2½

c) Give the advantages of tracer techniques. 2½

d) Explain the isotopes commonly used in biological studies. 2½

4. Discuss in detail the density gradient centrifugation. 10

**OR**

a) Discuss different types of centrifuge. 2½

- b) Draw typical diagram of ultracentrifuge. 2½
- c) Write a note on different types of rotors. 2½
- d) Discuss wall effect with labeled diagram. 2½

5. Attempt **any ten** from following.

- a) name any two buffer system used in paper electrophoresis. 1
- b) Give one advantage of cellulose acetate paper electrophoresis. 1
- c) Urea as a solubilizer breaks ----- bond in the protein molecule (Fill in the blanks) 1
- d) Name the buffer used in disc gel electrophoresis. 1
- e) Give one example of ampholyte. 1
- f) Define Immuno-electrophoresis. 1
- g) Give one use of isotopes in biology. 1
- h) What is unit of radioactivity? 1
- i) Who discovered the phenomenon of natural radioactivity? 1
- j) Give full form of RCF. 1
- k) What is maximum speed of High speed centrifuge? 1
- l) Who discovered centrifugation techniques. 1

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