

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/25/11999**

Max. Marks : 50

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

**1.** Discuss in detail the technique of Gel electrophoresis. **10**

**OR**

a) Discuss the factors which affect the mobility of molecule in electrophoresis. **2½**

b) What is solubilizer? Explain with two examples. **2½**

c) Write a note on Paper electrophoresis. **2½**

d) Write a note on detection methods of paper electrophoresis. **2½**

**2.** Give a detailed account of Disc-Gel electrophoresis. **10**

**OR**

a) Write a note on ELISA. **2½**

b) Give the principle of SDS-PAGE electrophoresis. **2½**

c) Give the principle of isoelectric focusing. **2½**

d) Discuss the principle of Radioimmunoassay. **2½**

**3.** Give a detail account of tracer techniques. **10**

**OR**

a) Discuss the technique of autoradiography. **2½**

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

c) Write a note on Geiger-Muller counter. **2½**

d) Enlist the isotopes commonly used in biological studies. **2½**

**4.** Discuss in detail differential centrifugation with example of cell organelle fractionation. **10**

**OR**

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| a) Discuss the principle of Rate zonal Centrifugation. | 2½ |
| b) Draw typical diagram of ultracentrifuge.            | 2½ |
| c) Write a note on different types of rotors.          | 2½ |
| d) Write a note preparation of density gradient.       | 2½ |

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

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|---|---|
| a) Define electrophoresis.                                    | 1 |
| b) Name any two buffer systems used in paper electrophoresis. | 1 |
| c) Give one application of high voltage electrophoresis.      | 1 |
| d) Give full form of SDS-PAGE.                                | 1 |
| e) Give one example of ampholyte.                             | 1 |
| f) Define Iso ionic pH.                                       | 1 |
| g) Give one use of isotopes in therapy.                       | 1 |
| h) What is the 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 desk top centrifuge?              | 1 |
| l) Who discovered centrifugation techniques.                  | 1 |

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