

Bachelor of Science (B.Sc.) Semester—IV (C.B.S.) Examination

BIO-CHEMISTRY

(Biophysical and Biochemical Techniques)

Paper—II

Time : Three Hours]

[Maximum Marks : 50

N.B. :— (1) **ALL** questions are compulsory and carry equal marks.

(2) Draw diagrams wherever necessary.

1. Discuss in detail factors affecting electrophoretic mobility. 10

OR

Describe in detail the technique of Paper electrophoresis. 10

2. Explain briefly :

(a) Principle of Isoelectric focussing. 5

(b) Immunoelectrophoresis. 5

OR

Describe in detail the principle and procedure of SDS-PAGE. 10

3. Explain the principle, instrumentation and working of Liquid scintillation counters. 10

OR

Write short notes on :

(a) Units of radioactivity 5

(b) Isotope Tracer technique. 5

4. Explain the process of isolation of cell component by differential centrifugation. 10

OR

Write short notes on :

(1) High speed centrifuge 5

(2) Rate-zonal centrifugation. 5

5. Solve any **ten** :

- (i) Which form of electrophoresis is used for separation of aminoacids ?
- (ii) Name any 2 solubilizers used in Gel electrophoresis.
- (iii) Why agarose is preferred over agar for gel electrophoresis ?
- (iv) Give any 2 properties of carrier amphibolytes.
- (v) How is RIA different from ELISA ?
- (vi) What is used to trigger polymerization of acrylamide ?
- (vii) Which are the most penetrating radiations observed during radioactive decay ?
- (viii) What do you mean by soft beta ?
- (ix) Name a stable isotope of Hydrogen.
- (x) What is RCF ?
- (xi) Name any two methods of molecular weight determination by sedimentation.
- (xii) What happens when the density of a segmenting particle equals to the density of the medium ?

1×10=10