a2zpapers.com

Exam. Code : 107406

Subject Code : 2335

B.Sc. (Bio-Technology) 6th Semester

BIOPHYSICAL AND BIOCHEMICAL TECHNIQUES—B

Paper—BT-6

Time Allowed—3 Hours] [Maximum Marks—40

SECTION—A

Note :– Attempt **All** questions. Each question carries **1** mark.

I. What is the role of matrix in MALDI ? What are the criteria for selection of matrix ?

II. What are the salient characters of fluors used in fluorescence spectroscopy ? Give two examples.

III. What is meant by electro-endosmosis and how it affects the separation of components during gel electrophorésis ?

IV. List different solubilizers used in PAGE and mention about their significance.

V. How capillary electrophoresis is different from gel electrophoresis ?

www.a2zpapers.com www.a2zpapers.com
oad free old Question papers gndu, ptu hp board, punjab

a2zpapers.com

VI. Comment on nature of ampholytes and their role in electrophoresis.

VII. What is half life of a radioactive element ? Comment on its significance.

VIII. What is scintillation counting and how it is important in radioactivity studies ?

SECTION—B

Note :– Attempt **five** questions. Each question carries **4** marks.

I. What are the different types of TOF analysers ? Comment on merit and demerits of each.

II. How instrumental set up for a visible spectrophotometer and a spectrofluorometer differ ?

III. What are the different solubilizers used in electrophoresis ? Briefly discuss about their mechanism of action and give a suitable example.

IV. What is the principle of immuno-electrophoresis ? List different types and comment on their applications.

V. What is the working principle of capillary electrophoresis ? How it achieves separation of components ? Give a suitable example of application of this technique.

VI. What is meant by isoelectric point of a protein and how it could be determined ? Comment on its role in isoelectric focussing.

www.a2zpapers.com
www.a2zpapers.com
oad free old Question papers gndu, ptu hp board, punjab

a2zpapers.com

VII. How presence of radioactive materials can be detected ? Why proportional counters are preferred over other instruments for detecting radioactivity ?

VIII. Briefly explain components and working design of liquid scintillation system ? Support your answer with a suitable example.

SECTION—C

Note :– Attempt **two** questions. Each question carries **6** marks.

I. How amino acid sequence of a protein can be determined by mass spectrometry ? Explain with an illustrated flow chart of the protocol.

II. How poly-acrylamide (PA) gel is prepared ? List the components along with their significance in gel formation. How PA gels of different strength are prepared ?

III. Describe in detail the protocol and components to perform 2,D-electrophoresis ? Comment on its significance in proteomics ?

IV. (a) What is meant by rate of radioactive decay and what are units of radioactive decay ?

(b) What are the different modes of radioactive decay ? Give a suitable example of each.

www.a2zpapers.com www.a2zpapers.com
oad free old Question papers gndu, ptu hp board, punjab