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(Printed)

(20622)

Roll No.

B.Sc. (Bio-Tech.) - I Year

NS-3460(N)

B.Sc. (Bio-tech.) Examination,

June-2022

**Instrumentation and Bio
analytical Techniques**

(B-106)

(New)

Time : 3:00 Hours]

[Maximum Marks : 50

Note : Attempt any **five** questions. **All** questions carry equal marks.

1. What are different types of ion-exchangers? Name two exchangers used in ion-exchange chromatography columns. 10
2. Give a detailed account of the iso-electric focusing and its applications in biotechnology. 10

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P.T.O.

3. Write detailed note on the following:

5 each

- (a) Confocal microscopy
- (b) Immuno-electrophoresis

4. Explain the chromatographic methods used for macro-molecules separation. 10
5. What is radio tracer technique. Discuss its importance in biological studies. 10
6. Explain the structure, principle of working and applications of light microscope. Also differentiate between bright field and dark field microscopy. 10
7. Write short note on the following:

2½ each

- (a) Principle of centrifugation
- (b) Affinity chromatography
- (c) Safety measures in handling radio-isotopes
- (d) Phase contrast microscopy

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8. Discuss in detail the theory and application of polyacrylamide gel electrophoresis.
10
9. Write a detailed account on MALDI-TOF and its significance.
10
10. Define thin layer chromatography (TLC) Discuss in detail its methodology and applications.
10