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Printed Pages : 3

(20623)

Roll No. 8

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

NS-3460

**B.Sc. (Bio-Tech.) Examination,
June-2023**

**INSTRUMENTATION AND BIO-
ANALYTICAL TECHNIQUES**

(B-106)

B.Sc. (Bio-Tech.)

Time : Three Hours]

[Maximum Marks : 50

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

1. What is high performance liquid chromatography (HPLC)? Discuss how a sample can be purified using an HPLC column? 10
2. What is UV-visible spectrophotometry? Discuss the principle, process and the applications. 10

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[P. T. O.]

3. Write detailed note on the following : 5 each
 - (a) SEM and TEM
 - (b) Autoradiography
4. Discuss the principle and application of immuno-electrophoresis. 10
5. Discuss the radioisotope tracer techniques and its clinical applications. 10
6. Write short note on the following : 2.5 each
 - (a) Fluorescence microscopy
 - (b) MALDI-TOF
 - (c) Affinity chromatography
 - (d) Uses of phase contrast microscope
7. Write the principle of gas liquid chromatography? Explain the different detectors used in conjunction with the gas liquid chromatography. 10
8. Write note on the following : 4+3+3
 - (a) X-ray crystallography

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(3)

(b) Iso-electric focusing

(c) Polarography

9. What is confocal microscopy ? Discuss its principle and applications in biological science. 10
10. Giving suitable diagram and details of NMR spectrometer, discuss its applications. 10