

M.Sc. (Botany) Semester - 2 (CBCS) Examination
April/May-2023 (NEW COURSE)
Analytical Techniques (INTDESC)

Time: 2:30 Hours

Marks: 70

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

Q.1 Answer the following. (any seven out of ten, each of two marks) (14)

1. Explain centrifugal force.
2. Mention the application of GC-MS.
3. What is tissue fixation?
4. Define gel electrophoresis.
5. Write about Mass spectroscopy.
6. Draw the light path of fluorescent microscope.
7. Explain advantage and disadvantage of SEM.
8. Define affinity chromatography.
9. Write importance and application of 2D PAGE.
10. What is Beer-Lambert Law?

Q.2 Write short note. (any two) (14)

1. Describe application of Autoradiography
2. Discuss the principle and application of transmission electron microscopy.
3. Discuss Fluorescence Microscopy with suitable diagram.

Q.3 Answer the following (both are compulsory) (14)

1. Write about ion exchange chromatography.
2. Explain LC-MS/MS.

OR

Q.3 Answer the following (14)

1. What is HPLC? Explain its principle and application. (05)
2. Write basic principle and types of chromatography (05)
3. Write a note on size exclusion chromatography. (04)

Q.4 Answer the following. (any two) (14)

1. Explain Infrared spectroscopy with application.
2. What is Spectroscopy? Describe Mass Spectroscopy.
3. Explain principle and application of X-Ray diffraction for elucidation of 3D structure.

Q.5 Write short note. (any two) (14)

1. Write a note on applications of centrifugation techniques
2. Write a note on types of centrifuge.
3. Describe Northern Blotting techniques.
4. Describe Agarose gel and its uses.
