

M.Sc. (Botany) Semester - 2 (CBCS) Examination
May/June-2022 (NEW COURSE)
Analytical Techniques (INT DESC)

Time: 2:30 Hours

Marks: 70

Instructions:

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

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| Q.1 | Answer the following (any <u>seven</u> out of ten, each of two marks) | 14 |
| | <ol style="list-style-type: none">1. Explain the applications of CD spectroscopy.2. Enlist any four fluorescence dye and describe its uses.3. What is tissue fixation?4. Define gel electrophoresis.5. Draw the light path of fluorescent microscope.6. Write differences between SEM and TEM7. Mention the application of GC-MS.8. Write importance and application of 2D PAGE.9. What is Beer-Lambert Law?10. Write about Mass spectroscopy. | |
| Q.2 | Write short note (any two) | 14 |
| | <ol style="list-style-type: none">1. Discuss Fluorescence Microscopy with suitable diagram.2. Write a note on Electron microscopy and its type.3. Describe application of Autoradiography | |
| Q.3 | Answer the following (both are compulsory) | 14 |
| | <ol style="list-style-type: none">1. Explain GC-MS/MS.2. Write about ion exchange chromatography. | |
| OR | | |
| Q.3 | Answer the following | 14 |
| | <ol style="list-style-type: none">1. Write basic principle and types of chromatography | [5] |
| | <ol style="list-style-type: none">2. What is HPLC? Explain its principle and application. | [5] |
| | <ol style="list-style-type: none">3. Write a note on affinity chromatography and its uses in molecule separation. | [4] |
| Q.4 | Answer the following (any two) | 14 |
| | <ol style="list-style-type: none">1. Explain principle and application of X-Ray diffraction for elucidation of 3D structure.2. What is Spectroscopy? Describe Mass Spectroscopy.3. Explain Infrared spectroscopy with application | |
| Q.5 | Write short note (any two) | 14 |
| | <ol style="list-style-type: none">1. Describe Northern Blotting techniques.2. Write a note on types of centrifuge.3. Write a note on applications of centrifugation techniques4. Describe electrophoresis in short. | |
