647510 **Msc2MicI0110** **Seat No :_____**

M.Sc. (Micro) Semester - 2 (*CBCS*) Examination
May/June-2022 (OLD COURSE)
ANALYTICAL TECHNIQUES (INTER DISCIPLINARY)

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 <u>seven</u> out of ten, each of two marks)** **14**

1. What is Beer-Lambert Law?
2. What is autoradiography? Mention the uses.
3. What is tissue fixation?
4. Define gel electrophoresis.
5. Draw the light path of fluorescent microscope.
6. Write differences between SEM and TEM
7. Mention the application of GC-MS.
8. Write importance and application of 2D PAGE.
9. Explain the applications of CD spectroscopy.
10. Write about Mass spectroscopy.

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

1. Discuss different types of staining techniques
2. Write a note on Electron microscopy and its type.
3. Describe application of Autoradiography

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

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

OR

Q.3 Answer the following **14**

1. Write basic principle and types of chromatography **5**
2. What is HPLC? Explain its principle and application. **5**
3. Write a note on affinity chromatography and its uses in molecule separation. **4**

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 types of centrifuge.
2. Describe Northern Blotting techniques.
3. Write a note on applications of centrifugation techniques

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