M.Sc. (Microbiology) (NEP Pattern) Semester-II

02MSCMB01 - Paper-I : Advance Techniques in Microbiology

P. Pages : 1 **GUG/S/25/15406**

Time : Three Hours * 3 0 5 5 * Max. Marks : 80

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1. Explain the viscosity and light scattering method to determine the size, shape and molecular weight of protein. **16**

OR

a) Explain CD/ORD method determine size and shape of macromolecules. **8**

b) Explain sedimentation and centrifugation techniques used in molecular weight determination. **8**

2. Describe the working mechanism and applications of SDS-PAGE in detail. **16**

OR

a) Write a detailed note on - Capillary electrophoresis. **8**

b) Write the working mechanism of two-dimensional gel electrophoresis. **8**

3. Describe the working mechanism and applications of SEM in detail. **16**

OR

a) Write a detailed note on - atomic force microscopy. **8**

b) Explain the mechanism of cryoelectron microscopy in detail. **8**

4. Explain the principle, working mechanism and applications of NMR. **16**

OR

a) Write a detailed note on- Western blotting **8**

b) Write a detailed note on - Southern blotting. **8**

5. Write a note on-

a) Diffusion method to determine size and shape of macromolecules. **4**

b) Capillary electrophoresis. **4**

c) Immunoelectron microscopy. **4**

d) Site directed mutagenesis. **4**

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