

M.Sc.(Biotechnology) (NEP Pattern) Semester-I  
**NEP-93 / 01MSCBT03 - Paper-III : Biophysical Techniques**

P. Pages : 1

Time : Three Hours



**GUG/W/23/15054**

Max. Marks : 80

Notes : 1. All questions are compulsory and carry equal marks.

1. Discuss the different types of gel electrophoresis. **16**

**OR**

a) Discuss how to determine the molecular weight of biopolymer through viscosity. **8**

b) Write a note on ion exchange chromatography. **8**

2. Discuss different types of centrifuge with their applications. **16**

**OR**

a) How can you determine the molecular weight by sedimentation velocity. **4**

b) Mathematically how to determine the RCF applied to particles during centrifugation. **4**

3. Give an account on Raman and Mass spectrophotometry. **16**

**OR**

a) Write a note on NMR. **8**

b) Write a note on fluorescence spectrophotometry. **8**

4. Give overall account on Geiger-Muller counter. **16**

**OR**

a) Write a note on solid scintillation counter. **8**

b) Write a note on liquid scintillation counter. **8**

5. Write short notes on:

a) High performance liquid chromatography. **4**

b) Write a note on sedimentation coefficient. **4**

c) Beer's law. **4**

d) Stable isotopes. **4**

\*\*\*\*\*