

B.Sc. - III (CBCS Pattern) Semester-V  
**USMBT-10 - Microbiology Paper-II - Bioinstrumentation**

P. Pages : 2

Time : Three Hours



**GUG/S/25/13106**

Max. Marks : 50

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1. Write in detail about working of mass spectrophotometer. **10**

**OR**

- a) Explain factors responsible for deviations from Beer's law. **2½**
- b) Write about application of UV visible spectrophotometer. **2½**
- c) Explain the concept of electromagnetic radiation. **2½**
- d) Give the difference between spectrophotometer and colorimeter. **2½**

2. Describe in detail about Gel filtration chromatography. **10**

**OR**

- a) Write about partition principle. **2½**
- b) Explain the principle of affinity chromatography. **2½**
- c) Write about thin layer chromatography. **2½**
- d) Write a note on Ascending paper chromatography. **2½**

3. Write in detail about SDS-PAGE. **10**

**OR**

- a) Explain Southern blotting Technique. **2½**
- b) Write about paper electrophoresis. **2½**
- c) Describe the factor affecting electrophoretic mobility. **2½**
- d) Write the procedure of gel electrophoresis. **2½**

4. Write about Density Gradient Centrifugation in detail. **10**

**OR**

- a) Write about GM counter. **2½**
- b) Write about radioisotope and stable isotope. **2½**

c) Explain the concept of RCF. 2½

d) Explain factors affecting sedimentation velocity. 2½

**5.** Write **any ten** of the following. **10**

a) Name the source of infrared light.

b) What is Lambert's law?

c) What is extinction coefficient?

d) What is RF value?

e) Which matrix used in Affinity chromatography?

f) Name the gel used in TLC.

g) What is the use of SDS?

h) What is Northern blotting?

i) Name the gel used in gel electrophoresis.

j) What is centrifugation?

k) What is scintillation counter?

l) What is the unit of radioactivity?

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