

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

P. Pages : 2

Time : Three Hours



GUG/W/23/13106

Max. Marks : 50

1. Explain the principle, instrumentation and application of UV spectrophotometer. **10**

OR

- a) Discuss about Beer's law. **2½**
- b) Differentiate between spectrophotometer and color. **2½**
- c) Discuss the concept of electromagnetic radiation. **2½**
- d) Write about time of flight analyzer. **2½**

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

OR

- a) Discuss the concept of partition coefficient. **2½**
- b) Discuss the procedure of ascending paper chromatography. **2½**
- c) Write about paper chromatography. **2½**
- d) Discuss the basic principle Affinity chromatography. **2½**

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

OR

- a) Describe the factors affecting electrophoretic mobility. **2½**
- b) Discuss the concept of Western blotting. **2½**
- c) Discuss the southern blotting. **2½**
- d) Describe paper electrophoresis. **2½**

4. Write in detail about density gradient centrifugation. **10**

OR

- a) Discuss the factors affecting sedimentation velocity. **2½**
- b) Describe radioactive and stable isotope. **2½**

- c) Write a note on GM counter. 2½
- d) Give the information about radioactive labeling. 2½

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

- a) What is monochromator? 1
- b) What is absorbance wavelength of DNA and protein? 1
- c) What is extinction coefficient? 1
- d) What is RF value? 1
- e) Which filter paper is used in chromatography? 1
- f) Give the name of stationary phase in TLC. 1
- g) What is Northern blotting? 1
- h) What is SDS? 1
- i) Name the gel used in gel electrophoresis. 1
- j) What is unit of radioactivity? 1
- k) What is isotope? 1
- l) What is half life period of radioactive decay? 1
