B.Sc. (CBCS Pattern) Semester - V

USMBT-10 - Microbiology Paper-II (Bioinstrumentation)

P. Pages : 2 **GUG/S/23/13106**

Time : Three Hours * 0 2 4 9 * Max. Marks : 50

---

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

OR

a) Explain Beer's law. **2½**

b) Give the applications of IR Spectrophotometer. **2½**

c) Discuss the concept of electromagnetic radiation. **2½**

d) Give the information about Chromophores. **2½**

2. Discuss in detail about paper chromatography. **10**

OR

a) Discuss the concept of partition coefficient. **2½**

b) Discuss in brief about the procedure of ascending chromatography. **2½**

c) Give the applications ion exchange chromatography. **2½**

d) Discuss the basic principle of Affinity chromatography. **2½**

3. Give detail account on SDS – PAGE electrophoresis. **10**

OR

a) Describe the factors affecting electrophoretic mobility. **2½**

b) Explain the process of Northern blotting. **2½**

c) Discuss the types of gels used in gel electrophoresis. **2½**

d) Discuss the concept of Southern blotting. **2½**

4. What is isotopic tracer technique? Give its application in biology in detail. **10**

OR

a) Discuss the concept of RCF. **2½**

b) Discuss about rate zonal centrifugation. **2½**

c) Describe the method of Scintillation counter. **2½**

d) Describe density gradient centrifugation. **2½**

5. Write **any ten** of the following. (One mark each)

a) Define extinction coefficient. **1**

b) What is the use of monochromator? **1**

c) Give the use of Colorimeter. **1**

d) What is partition coefficient? **1**

e) Give the names of ion exchange resins. **1**

f) Give the full form of HPLC. **1**

g) What is Western Blotting? **1**

h) Give the names of any two solubilizers. **1**

i) What is electrofocussing? **1**

j) What is sedimentation coefficient? **1**

k) What is Autoradiography? **1**

l) What is GM counter? **1**

****