

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

P. Pages : 2

Time : Three Hours



GUG/W/24/13106

Max. Marks : 50

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

OR

- a) Discuss about Beer's law. **2½**
- b) Give the application of mass spectrophotometer. **2½**
- c) Discuss the concept of electromagnetic radiation. **2½**
- d) Write about time of flight analyzer. **2½**

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

OR

- a) Discuss the concept of partition coefficient. **2½**
- b) Describe the procedure of ascending chromatography. **2½**
- c) Give the applications of Gas chromatography. **2½**
- d) Discuss the basic principle of Gel filtration chromatography. **2½**

3. Give detail information 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 any one gels in gel electrophoresis. **2½**
- d) Give the information about immune electrophoresis. **2½**

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

OR

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| a) Discuss the factors affecting sedimentation velocity. | 2½ |
| b) Describe the concept of RCF. | 2½ |
| c) Write a note on scintillation counter. | 2½ |
| d) Give the information about Radioactive labeling. | 2½ |

5. Solve **any ten** of the following (**one** mark each).

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| a) What is monochromator? | 1 |
| b) What is absorbance wavelength of DNA and protein. | 1 |
| c) What is chromophore? | 1 |
| d) What is partition coefficient? | 1 |
| e) Which filter paper is used in chromatography? | 1 |
| f) Give an application of Affinity chromatography? | 1 |
| g) What is Northern blotting? | 1 |
| h) Define cationic exchanger? | 1 |
| i) What is paper electrophoresis? | 1 |
| j) What is ultracentrifuge? | 1 |
| k) What is GM counter? | 1 |
| l) What is half life period of Radioactive decay? | 1 |
