PG Odd Semester Examination, March, 2023

MICROBIOLOGY

(1st Semester)

Course No.: MIBSEC-504

(Bioinstrumentation & Computer Application)

Full Marks: 70

Pass Marks : 28

Time: 3 hours

The figures in the margin indicate full marks for the questions. Answer any five question taking one from each unit.

UNIT-I

1. Write down the principles of electron microscopy and its application. 14

2. Describe the essential components of a flow cytometry with the help of suitable diagrams and its use in microbiology. 14

UNIT-II

3. Write short notes on the following : 7x2=14

   (i) Ion-Exchange Chromatography

   (ii) Affinity Chromatography

4. Write short notes on the following : 7x2=14

   (i) Centrifugation

   (ii) TLC

UNIT-III

5. Write short notes on the following : 7x2=14

   (i) UV Spectroscopy

   (ii) Atomic absorption spectroscopy

6. Describe the working principle of MALD1-TOF and its use in protein studies. 14

UNIT-IV

7. Describe the working principle of southern blotting and its application. 14

8. Write short notes on the following : 7x2=14

   (i) Agarose gel electrophoresis

   (ii) SDA-PAGE

UNIT-V

9. What is database? Describe the different types of the databases and their application in microbiology. 14

10. Write short notes on any two of the following : 7x2=14

    (a) BLAST

    (b) Local Area Network

    (c) NCBI

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