2024/SEM/EVEN/09/26/LISB-553/172

PG Even Semester Exam, 2024

Life Science & Bioinformatics

2nd Semester

COURSE NO. LS-553

[Techniques in Biological Science]

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer all questions,

1. With the help of diagram, differentiate between the functioning of scanning and transmission electron microscope. 14

Or

2. Describe about the principle instrumentation and application of phase contrast microscope. 6+5+3=14

3. Define the term metabolomics. What types of molecules are measured in metabolomics? Distinguish between targeted and untragetted metabolomics. Give a brief overview of metabolomics workflow. 2+2+4+6=14

Or

Turn over

4. Write short notes on following: 2x7=14
   a. GC-MS and its application
   b. Components and application of HPLC

5. Describe the principle and applications of southern blotting techniques. Add a note on Isoelectric focusing. 10+4=14

Or

6. Short notes on: 7x2=14

a. PCR

b. RAPD and AFLP

7. Write a descriptive note on the different types of ELISA. Add a note on the pros and cons of each. 11+3=14

Or

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

a. RIA

b. Ouchterlony techniques.

9. What do you mean by sample and sampling? Differentiate between stratified and non stratified sampling. Discuss different methods of sampling with example. 2+2+10=14

Or

10. Write notes on the following: 2x7=14

a. Measure of central tendency

b. Classification of variables

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