K23U 3439

Reg. No. : .....

Name : .....

III Semester B.Sc. Degree (C.B.C.S.S. – O.B.E. – Regular/Supplementary/ Improvement) Examination, November 2023
(2019 to 2022 Admissions)
GENERAL AWARENESS COURSE IN MICROBIOLOGY
3A12MCB : Bioinformatics and Bioinstrumentation

Time : 3 Hours Max. Marks : 40

PART – A

Answer **all** questions. **Each** carries **1** mark :

1. Give an account of Beer Lambert's law.
2. What are the applications of bioinformatics in agriculture ?
3. Why Taq polymerase used in PCR ?
4. Differentiate between BLAST and FASTA.
5. What is proteomics ?
6. What is the basic principle behind electrophoresis ?

PART – B

Answer **any 6** questions. **Each** carries **2** marks :

7. Enlist the major difference between thin layer and paper chromatography.
8. What is principle of PCR ?
9. What is a database ? How do you classify bio databases based on their source of data ?
10. Give an account of the major concepts in molecular modeling.
11. What are the advantages of proteomics ?
12. What is meant by absorption spectra ?
13. Give an account on the applications of bioinformatics in drug design.
14. Outline the steps involved in agarose gel electrophoresis.

P.T.O.

PART – C

Answer **any 4** questions. **Each** carries **3** marks :

15. Enlist the ingredients required for PCR experiment.
16. What is centrifugation ? Enlist its applications.
17. Differentiate between structural and functional genomics.
18. What is protein data bank and its applications ?
19. Outline the applications of chromatography.
20. What are dot matrices ?

PART – D

Answer **any 2** questions. **Each** carries **5** marks :

21. Write about the multiple sequence alignment and phylogenetic analysis.
22. Discuss on biological databases.
23. Write an essay on spectrophotometry.
24. Write short descriptions about the following :
    a) Paper chromatography.
    b) Genbank.
    c) EMBL.
    d) BLOSUM.