K20U 1296

Reg. No. : .....

Name : .....

III Semester B.Sc. Degree (CBCSS – Sup./Imp.)
Examination, November 2020
(2014-'18 Admns.)
GENERAL COURSE IN MICROBIOLOGY
3A12 MCB : Biophysics and Bioinformatics

Time : 3 Hours Max. Marks : 40

SECTION – A

(Answer **all** the **four** questions.)

1. FASTA program was designed by _____
2. A database for protein motifs/domain is _____
3. Sequences diverged from a common ancestor are known as _____
4. Hemoglobin represents _____ structure of proteins. **(4×1=4)**

SECTION – B

(Answer very briefly on **any seven** questions out of ten.)

5. Genome mapping.
6. SWISS PROT.
7. Global sequence alignment.
8. Dialysis.
9. Molecular docking.
10. Phylip.
11. HITS.

12. Entropy.

13. Clustal.

14. Omega loops. (7×2=14)

SECTION – C

(Answer very briefly on **any four** questions out of six.)

15. Information retrieval systems.

16. Secondary structure of proteins.

17. Representation of a phylogenetic tree.

18. Nucleosomes.

19. Laws of thermodynamics.

20. Genome databases. (4×3=12)

SECTION – D

(Answer **any two** questions out of four.)

21. Explain the methodology of phylogenetic tree construction.

22. Write a detailed account on genome sequencing and its applications.

23. Make a comparison of BLAST and FASTA.

24. Explain the Gibb's free energy concept and thermodynamics of biochemical reactions. (2×5=10)
