K19U 2481

III Semester B.Sc. Degree (CBCSS- Reg./Sup./Imp.)

Examination, November-2019

(2014 Admn. Onwards)

GENERAL COURSE IN MICROBIOLOGY

3A12 MCB : BIOPHYSICS AND BIOINFORMATICS

Time : 3 Hours   Max. Marks : 40

SECTION-A

(Answer **ALL** the four questions)   (4×1=4)

1. The conserved regions in protein sequences are known as-------.

2. Biological systems are open as there is-------- between organisms and their environment.

3. TrEmbl is expanded as----------.

4. BLAST was designed by----------.

SECTION-B

(Answer very briefly on any **Seven** questions out of Ten)

(7×2=14)

5. HITS.

6. Entropy.

7. Dialysis.

8. Chargaff's rule.

9. k- tups.

10. Entrez.

11. Phylip.

12. Molecular docking.

13. Histone proteins.

14. Omega loops.

SECTION-C

(Answer very briefly on any **Four** questions out of six)   (4×3=12)

15. Drug designing.

16. Laws of thermodynamics.

17. Primary and secondary biological databases.

18. Free energy change in endergonic and exergonic reactions.

19. Global and local sequence alignments .

20. Compare alpha - helices and beta - pleats in proteins.

SECTION-D

(Answer any **Two** questions out of Four)   (2×5=10)

21. Describe the procedure involved in whole genome sequencing.

22. Explain the methodology in BLAST.

23. Make a comparison of different forms of DNA.

24. Explain the steps involved in phylogenetic tree construction.

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