



K17U 1976

Reg. No. : .....

Name : .....

III Semester B.Sc. Degree (CBCSS – Reg./Sup./Imp.)  
Examination, November 2017  
(2014 Admn. Onwards)  
**GENERAL COURSE IN MICROBIOLOGY**  
**3A12MCB : Biophysics and Bioinformatics**

Time : 3 Hours

Max. Marks : 40

SECTION – A

1. Myoglobin represents \_\_\_\_\_ structure of proteins.
2. The proteins associated with DNA are called \_\_\_\_\_
3. In a thermodynamically favourable reaction,  $\Delta G$  is \_\_\_\_\_
4. EMBL is a database for \_\_\_\_\_

(4×1=4)

SECTION – B

5. What is the principle of dialysis ?
6. Why is ATP required for endergonic reaction ?
7. What are the types of non-covalent bonds found in protein molecules ?
8. How many base pairs are there per turn of B and Z helix of DNA ?
9. What is the characteristic bond in proteins ? How is it formed ?
10. Expand PHYLIP. What is its application ?
11. What are primary databases ? Name one example.



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12. What is genome mapping? Name two species in which genome mapping has been completed.

13. What are the applications of Clustal?

14. What is BLAST? Who developed it?

(7×2=14)

SECTION - C

15. Write a brief account on drug designing.

16. Compare global and local sequence alignments.

17. Describe the alpha helical structure of proteins.

18. Explain the laws of thermodynamics.

19. Write a brief account on nucleosomes.

20. What is the application of PROSITE and PRINT?

(4×3=12)

SECTION - D

21. Write a detailed account on pair wise sequence alignment.

22. What are the applications of Information retrieval systems?

23. Describe the different forms of DNA.

24. Explain the thermodynamics of biochemical reactions.

(2×5=10)