

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted from the academic year 2019 – 2020 & thereafter)

SUBJECT CODE: 19BI/PC/EB14

M. Sc. DEGREE EXAMINATION, NOVEMBER 2022
BIOINFORMATICS
FIRST SEMESTER

COURSE : CORE
PAPER : ESSENTIALS OF BIOINFORMATICS
TIME : 1½ HOURS

MAX. MARKS: 50

SECTION – A

ANSWER ALL THE QUESTIONS: (20x1=20)

1. List out the uses of OMIM database.
2. What are specialized databases in bioinformatics?
3. Comment on features of EMBL.
4. What is Entrez in bioinformatics?
5. Define Orthologs.
6. Compare PAM and BLOSUM.
7. Summarize the significance of dot plot.
8. Define Gap Penalty.
9. How will you evaluate the Results of BLAST?
10. Comment on TIGR BLAST.
11. Define E- value.
12. What is high-scoring segment pair?
13. Summarize the significance of iterative alignment.
14. What is Clustal W and what is its purpose?
15. Define phenetics.
16. Define superfamily.
17. Illustrate rooted and unrooted trees with an example.
18. Define Bootstrapping method.
19. Outline the applications of phylogenetic analysis.
20. Define clade.

SECTION – B

ANSWER ANY TWO QUESTIONS: (2x15=30)

21. Comment on (a) Sequence file formats and (b) Sequence Submission Tools
22. Elaborate in detail about Databases of bioinformatics and its applications.
23. How would you apply dynamic programming methods to compare two sequences?
24. Categorize the Phylogenetic tree construction based on distance and character-based methods.
