

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086
(For candidates admitted during the academic year 2015 – 2016& thereafter)

SUBJECT CODE: 15BI/PE/FB34

M.Sc. DEGREE EXAMINATION NOVEMBER 2018
BIOINFORMATICS
THIRD SEMESTER

COURSE : ELECTIVE
PAPER : FUNDAMENTALS OF BIOINFORMATICS
TIME : 3 HOURS

MAX. MARKS: 100

SECTION A

(20x1=20)

Answer ALL questions.

1. Write about goals of bioinformatics?
2. NCBI
3. GenBank format
4. SRS
5. Substitution matrix
6. Pairwise sequence alignment
7. Gap penalty
8. HSP
9. Dendrogram
10. What is the purpose of a phylogenetic tree?
11. UPGMA
12. ClustalW
13. EST
14. BLAST
15. Genome annotation
16. Restriction sites
17. SNPmicroarrays
18. Affymetrix
19. Biomarker
20. Hybridization probe

SECTION-B

Answer any FOUR questions in 200 words

(4x10=40)

21. Brief about applications of bioinformatics in the field of medicine?
22. Write in detail about Scoring Matrix?
23. Write steps involved in Needleman–Wunsch algorithm?
24. Brief about rooted and unrooted trees?
25. Write about two softwares used in gene predictions?
26. Explain GEO database in detail.
27. Brief about Programs listed in PHYLIP.

SECTION-C

Answer any TWO questions in 1000 words

(2x20=40)

28. Write in detail about classification of biological databases?
29. Write about Multiple Sequence Alignment and its steps?
30. Write in detail about shotgun sequencing method?
31. Explain in detail about steps in DNA microarray analysis and its applications?
