

**STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086**

**(For candidates admitted from the academic year 2015 – 2016 & thereafter)**

**SUBJECT CODE: 15BI/PC/AB34**

**M. Sc. DEGREE EXAMINATION, NOVEMBER 2017**

**BIOINFORMATICS**

**THIRD SEMESTER**

**COURSE : CORE**

**PAPER : ALGORITHMS FOR BIOINFORMATICS**

**TIME : 3 HOURS**

**MAX. MARKS: 100**

**SECTION - A**

**ANSWER ANY TEN QUESTIONS:**

**(10x10=100)**

1. Discuss biological algorithm vs computer algorithm with DNA replication as an example.
2. Describe the practical restriction mapping algorithm.
3. Write in detail about the global and local sequence alignment.
4. Give a short note on Artificial Neural Networks.
5. Describe the exact pattern matching.
6. Explain the *k*-Means clustering.
7. How does BLAST compares sequences against database?
8. Explain the divide and conquer algorithm in detail.
9. Write a note on alternative sequencing technique and explain in detail about SBH as Hamiltonian and Eulerian Path problem.
10. Describe the various algorithm design techniques.
11. Describe the Longest common subsequence algorithm with an example.
12. Write a detailed note on Character-Based Tree Reconstruction method.

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