STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086

(For candidates admitted from the academic year 2011 – 12 & thereafter)

M. Sc. DEGREE EXAMINATION, NOVEMBER 2015
BIOINFORMATICS
THIRD SEMESTER

COURSE   **: CORE**
PAPER   **: ALGORITHMS FOR BIOINFORMATICS**
TIME   **: 3 HOURS**   **MAX. MARKS: 100**

SECTION - A

ANSWER ANY TEN QUESTIONS: **(10x10=100)**

1. Differentiate between impractical and practical restriction mapping algorithm.

2. Explain in details about the String matching algorithms used for finding a median string in a sequence.

3. What is Hamiltonian cycle? Explain shortest path problem and its application on Bioinformatics.

4. Describe in detail about the methods in which used for prediction of secondary structure of proteins.

5. Describe in detail about Branch and Bound algorithm.

6. Describe in detail about the a Graph algorithm for sequence alignment.

7. Explain the gene expression analysis using hierarchial clustering algorithm?

8. Write the Needleman – Wunch algorithm for Global sequence alignment.

9. How to use the DNA array for sequencing the DNA?

10. How to find out the combinatorial pattern matching by identical, similar and distance repeats?

11. Describe the various algorithm design techniques.

12. How to find out the regulatory motif in DNA sequence?

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