LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc.DEGREE EXAMINATION – **PHYSICS& PHYSICS & PLANT. BIO.**

FOURTHSEMESTER – APRIL 2017

AZ 4200- BIOINFORMATICS

Date: 29-04-2017   Dept. No.   Max. : 100 Marks
Time: 09:00-12:00

PART – A
Answer all the questions in 50 words each[10 × 2 = 20]

1.   What are the components of www?
2.   State the application of CLUSTAL omega and BLAST.
3.   Distinguish database and biological database.
4.   Compare DNA chip technology and biosensor technology.
5.   Define genetic algorithm.
6.   What do you mean by cheminformatics?
7.   What are high level languages? Cite two examples.
8.   What is DNA tweezer?
9.   State Tanimoto Coefficient.
10.   Expand: (a) CADD(b) KEGG

PART – B
Answer any four questions in 500 words[4 X 10 =40]

11.   Propose a flow chart for protein structure prediction.
12.   What do we actually do with Bioinformatics?
13.   What are the steps involved in knowledge discovery in databases?
14.   How do you perform Southern blotting? State its significance.
15.   Examine the principle, protocol and applications behind microarray.
16.   Explain the design of a DNA nanomachine and state its applications.

PART - C
Answer any two questions in 1200 words[2 X 20 =40]

17.   Discuss on the diverse biological databases, their types and the tools
associated with them.

18. How does internet aid in exploring bioinformatics?

19. What are the tools being used in genetic engineering?

20. Highlight on:

      a) Post-translational modification of proteins

      b) Molecular docking

      c) Genomic library

      d) DNA computing

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