LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – **ADVANCED ZOOLOGY AND BIOTECHNOLOGY**

SIXTH SEMESTER – **APRIL 2019**

AZ 6604– BIOINFORMATICS

Date: 02-04-2019 Dept. No. Max. : 100 Marks

Time: 09:00-12:00

PART – A

Answer ALL questions, each in a few words **10 ò 2 = 20 marks**

01. Differentiate phylogeny from systematics.
02. What is gene prediction?
03. What is URL with an example?
04. Define database with an example.
05. Define algorithm.
06. What is a homologous sequence?
07. What is an EST?
08. Mention any two applications of PCR.
09. What is a Open Reading Frame?
10. Comment on metagenomics.

PART B

Answer any FOUR questions, each in about two pages **4 ò 10 = 40 marks**

11. Explain the significance of "sequence database searching". Mention any two methods.
12. What is of BLOSUM matrix? Describe its construction.
13. Give a short account of the various approaches in predicting the protein structure.
14. Explain what is parsimony analysis in phylogeny?
15. Write brief accounts on any four types biological databases.
16. Briefly explain the process of DNA sequencing.

PART C

Answer any TWO questions, each in about 4 pages **2 ò 20 = 40 marks**

17. With reference to Internet explain the following: (i) Origin and development; (ii) Search engine and its functioning.
18. Discuss the applications of Bioinformatics.
19. Give an account of DNA sequence data repositories.
20. Write an essay on gene mapping and its applications.

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