

**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**



**M.Sc. DEGREE EXAMINATION – ZOOLOGY**  
**THIRD SEMESTER – NOVEMBER 2019**  
**18PZO3ES01 – BIOINFORMATICS**

Date: 06-11-2019

Dept. No.

Max. : 100 Marks

Time: 09:00-12:00

**Part-A**

**Answer all the questions**

**(10×2=20)**

1. Enlist any four tasks that can be performed using databases.
2. What are specialized databases? Give two examples.
3. Give two examples of flat file databases.
4. What is meant by controlled vocabulary?
5. Differentiate between local and global sequence alignment.
6. Give the applications of JalView and Clustal Omega.
7. Explain the salient features of GENSCAN.
8. What are the exon-defining signals that gene prediction tools look out for?
9. What is meant by molecular docking in drug discovery?
10. Give one example each of a database and software used for single nucleotide polymorphism analysis.

**Part-B**

**Answer any FOUR questions**

**(4×10=40)**

11. Give an account of database management systems with examples.
12. Explain the working of search engines and the types of searches.
13. Write notes on the following:  
(i) Edit distance      (ii) BLAST
14. Describe the identification of open reading frames using ORF Finder.
15. Draw a stepwise flowchart that describes the drug discovery process and add a note on the bioinformatics databases and software used for the same.
16. Discuss the following:  
(i) Metadata      (ii) Thesaurus

**Part-C**

**Answer any TWO questions**

**(2×20=40)**

17. Describe nucleic acid sequence databases and protein sequence databases with examples.
18. Explain the steps in phylogenetic tree construction and give a detailed account of the phylogenetic tree construction methods.
19. Discuss microarray technology and its applications.
20. Write notes on the following:
  - (i) Protein structure visualization tools
  - (ii) Role of pharmacogenomics in personalized medicine

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