



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY & BIOTECHNOLOGY

FOURTH SEMESTER – APRIL 2014

PB 4208 - BIOINFORMATICS-II (GENOMICS & PROTEOMICS)

Date : 01/04/2014

Dept. No.

Max. : 100 Marks

Time : 01:00-04:00

Part -A

Answer the following, each answer within 50 words.

(10x2=20)

1. Write any two objectives of learning bioinformatics.
2. Define genome.
3. Give the sequence of 2 stop codons.
4. What is the advantage of signalP server?
5. Define Orthologs.
6. What is a database?
7. Write any two applications of DNA sequencing.
8. Define signal transduction.
9. Mention the server used for *ab initio* modelling and protein threading.
10. Write any two goals of HGP.

Part B

Answer the following each answer within 500 words. Draw diagrams and flowcharts wherever necessary.

(5x7=35 marks)

11. a) Compare prokaryotic and eukaryotic genome.
OR
b) Write short note on: (i) EnSemble Database (ii) *E.coli* Database
12. a) Write notes on : (i) Splice site types (ii) Introns (iii) Exons and (iv) Start Codon sequence
OR
b) Give an account of genetic codon table.
13. a) Illustrate any two post translational modifications of protein.
OR
b) Write the significance of signal peptides and signal peptidases.
14. a) Write a short note on Intermolecular interaction.
OR
b) Define SCOP. Explain its classifications.

15. a) Write about the potential benefits of HGP.

OR

b) Define phylogenetic analysis. Explain the steps and databases involved in it.

Part C

Answer any three of the following, each answer within 1200 words. Draw diagrams and flowcharts wherever necessary. (3x15=45 marks)

16. Describe gene finding in large genomes using different gene finding tools.

17. Describe DNA sequencing method.

18. Explain the various protein family databases

19. What is protein-protein interaction? Explain the biochemical methods used to investigate it.

20. Elaborate on microarray technology in disease diagnosis.
