



Avinashilingam Institute for Home Science and Higher Education for Women

(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)

Re-accredited with 'A+' Grade by NAAC. Recognised by UGC Under Section 12B

Coimbatore - 641 043, Tamil Nadu, India

Bachelor's Degree Examination – August 2020

VI Semester

Class : III UG
Major : Botany

Time : 2 Hours
Max. Marks : 50

15BBOC25 Evolution and Bioinformatics

Part A

10 x 1 = 10

Choose the Correct Answer

- The "Theory of evolution" was put forward by
 - Aristotle
 - Louis Pastuer
 - Gregor Mendal
 - Charles Darwin
- Which of the following represents the best of Lamarck's ideas on the evolution process?
 - Survival of fittest
 - Inheritance of acquired characters
 - Neutral drift
 - Assortive matting
- BLAST uses a _____ to find matching words.
 - substitution matrix
 - hashing procedure
 - blocks
 - KtuPS
- Characterizing molecular component is
 - genomics
 - cheminformatics
 - proteomics
 - bioinformatics
- Phylogenetic inference package by Joe Felsenstein is
 - PAUP
 - PHYLIP
 - GCG
 - PHYML
- Phylogenetic relationship can be shown by
 - Dendrogram
 - Gene bank
 - Data retrieving tool
 - Data search tool
- The identification of drugs through genomic study is
 - genomics
 - cheminformatics
 - pharmagenomics
 - pharmagenetics
- Analysis or comparing of entire genome of species is called
 - Bioinformatics
 - Genomics
 - Genetics
 - Pharmacogenomics
- Proteomics is the study of
 - set of proteins in a specific region of the cell
 - set of proteins
 - entire set of expressed proteins in a cell
 - none of the above
- Which of the following is the most important aspect for planning and designing a good proteomics experiment?
 - Appropriate choice of samples and controls
 - Effective data analysis
 - Robust sample preparation method
 - All the above

Part - B

3 x 6 = 18

Answer any Three questions

Each answer should not exceed 400 words or two pages

11. Comment on Darwin's Finches.
12. Write a brief note on Lamarckism.
13. Give a short account on FASTA.
14. Comment on protein database.
15. How to explain a phylogenetic tree?
16. How to calculate similarities on phylogenetic trees?
17. Write a brief account on genetic map.
18. Mention the steps involved in drug designing.
19. How the structure of proteins are predicted?
20. Give short note on proteomics.

Part - C

2 x 11 = 22

Answer any Two questions

Each answer should not exceed 800 words or four pages

21. Give an account on natural selection theory.
22. Explain the mutation theory. Write its merits and demerits.
23. Elaborate the history and scope of bioinformatics.
24. Explain any one of the multiple –sequence alignment tool and its advantages.
25. Explain evolutionary tree construction using PHILP software
26. Discuss the construction of large phylogenetic tree based on profile distances.
27. Explain with suitable diagram the DNA microarray techniques and its advantages.
28. Give an account of Molecular markers.
29. Critically analyze the role of GAP 30 in identifying defective genes.
30. Write in detail the applications of proteomics in medicine.
