

KAMARAJ COLLEGE (Autonomous)

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

THOOTHUKUDI – 628 003

(5 Pages)

Reg. No:

Question. Code No : 25E03504

Sub Code : 24PEB023

PG Degree - End Semester Examinations, April 2025

Second Semester

M.Sc. BOTANY

**Elective - Research Methodology, Computer Applications and
Bioinformatics**

(For those who joined in July 2024 onwards)

Time : 3 Hours

Maximum : 75 Marks

PART – A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer :

1. Turnitin software is used for

(a) Citation

(b) Monograph

(c) Plagiarism

(d) SOP

2. In Tamil Nadu Banana Research Institute is located at
 - (a) Trichy
 - (b) Chennai
 - (c) Chengalpattu
 - (d) Madurai
3. Who invented the Polymerase Chain Reaction?
 - (a) Benjamin Franklin
 - (b) Henry Moseley
 - (c) Karry B Mullis
 - (d) Wilhelm Rontgen
4. The process of sudden cooling is called
 - (a) Initiation
 - (b) Denaturation
 - (c) Annealing
 - (d) Quenching
5. Which of the following is a standard communication protocol?
 - (a) Telnet
 - (b) Ftp
 - (c) Internet
 - (d) Intranet
6. Endnote is used to format
 - (a) Introduction
 - (b) Reference
 - (c) Discussion
 - (d) Materials and methods
7. _____ is used to deposit gene sequence
 - (a) Genbank
 - (b) Pubmed
 - (c) Protein databank
 - (d) PDB
8. Proteins are deposited in
 - (a) PDP
 - (b) DBP
 - (c) PBB
 - (d) PDB

9. DDBJ refers to
- (a) DNA Data Bank of Japan
 - (b) DNA Data Bank of America
 - (c) DNA Data Bank of China
 - (d) DNA Data Bank of India
10. _____ tool is used for Multiple Sequence Analysis
- (a) RASMOL
 - (b) Phylip
 - (c) SWISSPROT
 - (d) BLAST

PART - B (5 X 5 = 25 Marks)

**Answer ALL Questions choosing either (a) or (b).
Answer should not exceed 250 words.**

11. (a) Describe about plagiarism and its role in research.

(OR)

- (b) Write about the introduction and preparation of research proposal.

12. (a) List out the applications of centrifuge.

(OR)

- (b) Describe about the working principles of lyophilizer.

13. (a) Write about Bioinformatics and its importance.

(OR)

(b) Write about the various types of software's used in operating systems.

14. (a) Describe the searching tools used for biological databases.

(OR)

(b) Write notes on the importance of protein data bank.

15. (a) Describe about FASTA.

(OR)

(b) Give a brief account on EMBL.

PART - C (5 X 8 = 40 Marks)

**Answer ALL Questions choosing either (a) or (b).
Answer should not exceed 600 words.**

16. (a) Explain the paper presentation procedures.

(OR)

(b) Explain the role of National and International Research Institutions.

17. (a) Enumerate the various chromatographic techniques that you have studied.

(OR)

(b) Elucidate the various gel electrophoresis that you have studied.

18. (a) Discuss the various methods to find scientific articles.

(OR)

(b) Explain about the various search engines used in research.

19. (a) Differentiate nucleic acid and protein data banks.

(OR)

(b) Discuss about the protein structure prediction

20. (a) Elaborate about gene prediction and its applications

(OR)

(b) Discuss the Multiple Sequence Analysis and add notes on its importance.