

Post Graduate Teaching Department of Zoology

An Autonomous Department of
RTM, Nagpur University, Nagpur

M. Sc. Zoology Semester -IV (CBCS)

Theory Examination Summer-2024

Paper 4T1- Biotechniques, Biostatistics, Ethology, Toxicology and Bioinformatics

Time: 3 hrs.

Maximum Marks: 60

Notes:

1. All questions are compulsory.
2. All questions carry equal marks.
3. Draw neat well labeled diagrams wherever necessary.

1: Explain in detail the sterilization techniques and media for microbial culture.

OR

Write notes on: -

- (a) Principle of centrifugation.
- (b) Tissue culture.

2: Illustrate addition and multiplication rule of probability with example.

OR

Write notes on: -

- (a) Animal ethics.
- (b) Chi square test.

3: Illustrate and explain about the significance of toxicity test in the projects and research. Add a note on calculation of LC50 and LD 50.

OR

Write notes on: -

- (a) Scope of toxicology.
- (b) Classification of environmental toxicants.

4: Explain the importance and scope of bioinformatics in research. Add a note on business and employment opportunities of bioinformatics.

OR

Write notes on: -

- (a) Compare local and global sequence alignment.
- (b) Phylogenetic tree style.

5: Write in brief on followings: -

- (a) Radioactive isotopes.
- (b) Softwares of statistics.
- (c) Types of antidotes.
- (d) Variants of BLAST.