

No. of Printed Pages : 3

MZO-005

M. SC. (ZOOLOGY)

(MSCZOO)

Term-End Examination

June, 2025

MZO-005 : GENOMICS AND PROTEOMICS

Time : 2 Hours

Maximum Marks : 50

Note : Attempt any *five* questions. All questions carry equal marks.

-
-
1. (a) Discuss the different types of retrotransposons. 5
 - (b) Discuss the evolution of vertebrate globin gene family. 5

B-1511/MZO-005

P. T. O.

2. Describe the sequencing based approach to transcriptome analysis along with its advantages and disadvantages. 10
3. (a) Explain the steps of 'clone by clone' method of genome sequencing with illustrations. 5
(b) Write a brief note on Multiple Sequence Alignment with special reference to its types and uses. 5
4. (a) Outline the basic principle of northern blotting with schematic diagram. 5
(b) Write a brief note on Expressed Sequence Tags (ESTs) along with its applications. 5
5. Give a broad account on the different types of protein microarrays. 10

[3]

6. Discuss the role of different software packages for the evaluation and detection of 2-dimensional gel patterns in case of proteins. 10

7. Write short accounts on the following :

$2\frac{1}{2} \times 4 = 10$

- (a) Genome analysis of *Plasmodium falciparum*
- (b) Bacterial artificial chromosomes
- (c) Small interfering RNA
- (d) Stable Isotope Labelling by Amino acids in cell culture

x x x x x

B-1511/MZO-005