

Reg. No. :

Name :

Second Semester M.Sc. Degree Examination, May 2020

Branch : Zoology

**ZO 222 : GENETICS, QUANTITATIVE ANALYSIS AND RESEARCH
METHODOLOGY**

(2013 Admission onwards)

Time : 3 Hours

Max. Marks : 75

SECTION A

Write very brief notes on any **ten** of the following. Select **eight** from Group 1 and **two** from Group 2. Each question carries **2** marks.

GROUP 1

1. Aneuploidy
2. QTL
3. Expressivity
4. Multiple Cloning Site
5. Philadelphia chromosome
6. Mutation
7. YAC
8. Karyotype
9. F' plasmid
10. Lethal alleles
11. Electroporation

P.T.O.



GROUP 2

- 12. Dependent Variable
- 13. Correlation
- 14. PubMed
- 15. Research Problem

(10 × 2 = 20 Marks)

SECTION B

Write short notes on any **six** of the following. Select **four** from Group 3 and **two** from Group 4. Each question carries **4** marks.

GROUP 3

- 16. Incomplete dominance and Codominance
- 17. Hardy-Weinberg law
- 18. X-inactivation
- 19. Lambda phage vector
- 20. Lysogenic cycle in Bacteriophage.
- 21. Genetics of β thalassemia.
- 22. PCR in Gene cloning

GROUP 4

- 23. Kurtosis
- 24. ANOVA
- 25. Abstracting for Publication

(6 × 4 = 24 Marks)



SECTION C

Write short essays on any **three** of the following. Select **two** from Group 5 and **one** from Group 6. Each question carries **7** marks.

GROUP 5

26. Chromatin and G-banding
27. DNA fingerprinting and its applications.
28. Types of restriction and modification (R-M) system.

GROUP 6

29. Methods of data collection for research.
30. Important parametric tests :
 - (a) z-test ;
 - (b) t-test ;
 - (c) χ^2 -test, and
 - (d) F-test

(3 × 7 = 21 Marks)

SECTION D

Write an essay on any **one** of the following. Each question carries **10** marks.

31. Give a detailed account on Human Pedigree Analysis and its application to identify inherited genetic diseases.
32. What is Population Genetics? Brief on Genetic variations and its measurement.

(1 × 10 = 10 Marks)

