

Reg. No. :

Name :

Second Semester M.Sc. Degree Examination, July 2019

Zoology

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

(2013 Admn. onwards)

Time : 3 Hours

Max. Marks : 75

SECTION – A

1. 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. Gene mapping
2. Hardy Weinberg equilibrium
3. Talassemia
4. Human Genome project
5. Rh incompatibility
6. Gene Penetrance
7. Patterns of inheritance
8. Patau syndrome



9. Prophage
10. Vector DNA
11. Chromosome Jumping.

Group-2

12. IACUC
13. Trademark
14. Bar diagram
15. Hypothesis

(10 × 2 = 20 Marks)

SECTION – B

- II. 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. Ethical implications of genetic testing.
17. Distinguish somatic gene therapy and germline gene therapy.
18. Generalized transduction
19. Trisomy 18
20. Discovery of Ester Lederberg
21. Karyotyping
22. Lyon Hypothesis.

Group-4

23. Skewness
24. Student's 't' test
25. Dose response.

(6 × 4 = 24 Marks)



SECTION – C

- III. 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. Explain factors which disrupt gene.
27. Retrovirus replication.
28. Chromosome Banding techniques.

Group-6

29. Poisson and normal probability distributions.
30. Components of research design.

(3 × 7 = 21 Marks)

SECTION – D

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

31. Explain the applications of DNA fingerprinting in forensic science and paternity testing.
32. Explain the following : UGC, Scopus index, Clarivate analytics, Impact factor, Citations, IPR.

(1 × 10 = 10 Marks)

