QP CODE: 26022449

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Reg No : .....

Name : .....

M Sc DEGREE (CSS) EXAMINATION MAY 2026

Second Semester

M Sc ZOOLOGY

CORE COURSE - ZL010203 - GENETICS AND BIOINFORMATICS

2019 ADMISSION ONWARDS

F57B6CC1

Time: 3 Hours Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

*Weight **1** each.*

1. Differentiate between a back cross and a test cross.
2. Comment on RuvC protein.
3. What is the difference between telomeres and telomerase?
4. What is copy-and -paste transposition?
5. What are the different types of transposable elements in humans?
6. Comment on origin of replication in eukaryotes.
7. Differentiate between Somatic and Germinal mutations.
8. Comment on Y linked traits.
9. What is allele frequency?
10. What is OWL

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

*Weight **2** each.*

11. How can conjugation data be used for gene mapping?
12. Explain the mechanisms of genetic exchange in Bacteria.
13. Write an account on DNA packaging in Prokaryotes.
14. Add an account on genetic diseases associated with defects in DNA repair.
15. Explain the role of mi RNA and si RNA in molecular biology techniques.
16. Write a note on gene silencing.

17. Comment on the methods of sequence alignment.

18. Comment on Synthetic Biology.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. Write an essay on the factors (other than interaction of genes) which causes phenotypic alteration of a genotype.

20. Write a detailed account on various DNA repair mechanisms in prokaryotes and eukaryots.

21. Write an account on sex limited and sex influenced characters in man.

22. Add an account on microarray technology.

(2×5=10 weightage)