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Reg. No. : .....

Name : .....

Fifth Semester B.Sc. Degree Examination, December 2023

First Degree Programme under CBCSS

Zoology

Core Course

ZO 1542 : GENETICS AND BIOTECHNOLOGY

(2019 Admission Onwards)

Time : 3 Hours Max. Marks : 80

SECTION – A

I. Answer the following questions (**one** or **two** sentences each carries **1** mark).

1. Codominance.
2. Can mutations be inherited?
3. What is VNTR?
4. Probes.
5. Barr bodies.
6. Holandric genes
7. Euploidy.
8. Gynandromorph.

P.T.O.

9. DNA polymerase used in PCR

10. DNA Ligase.

(10 × 1 = 10 Marks)

SECTION – B

II. Answer any **eight** of the following (not exceed one paragraph. Each carries **2** marks)

11. What is the difference between genetic and environmental sex determination?

12. What is crossing over?

13. Western blotting.

14. DNA vaccines.

15. Karyotyping.

16. Dosage compensation.

17. Restriction endonuclease.

18. Sex influenced genes.

19. Pleotropism.

20. Monoclonal antibodies

21. cDNA library.

22. Pedigree.

(8 × 2 = 16 Marks)

SECTION – C

III. Answer any **six** of the following. (not to exceed 120 words. Each carries **4** marks).

23. How does recombination contribute to genetic diversity?

24. Role of Y chromosome in sex determination.

25. Describe any four gene transfer techniques.

26. Describe any two abnormalities due to defect in phenyl alanine tyrosine mechanism.

27. Chromosome theory of linkage.

28. Recombinant DNA technology.

29. Dominant epistasis.

30. Polymerise chain reaction.

31. Gene doping and its implications.

(6 × 4 = 24 Marks)

SECTION – D

IV. Answer any **two** of the following. (Each carries **15** marks)

32. Describe the different sex determining mechanisms in animals.

33. Explain different numerical congenital chromosomal abnormalities of man

34. Write an essay about practical applications of biotechnology.

35. Explain crossing over. What are its significance?

(2 × 15 = 30 Marks)
