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M – 1528

Reg. No. :

Name :

Fifth Semester B.Sc. Degree Examination, December 2021.

First Degree Programme under CBCSS

Zoology

Core Course VI

ZO 1541 – GENETICS AND BIOTECHNOLOGY

(2016 & 2017 Admission)

Time : 3 Hours

Max. Marks : 80

- I. Answer the following questions (in one or two sentences, 1 mark each)
1. Define test cross.
 2. What is an allele?
 3. Define complementary gene.
 4. Mention the scientist who invented 'barr bodies'?
 5. Define gynandromorph.
 6. What are kappa particles?
 7. What is microinjection?
 8. Define DNA vaccines.
 9. What are ligases
 10. Mention monoclonal antibodies.

(10 × 1 = 10 Marks)

P.T.O.

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

11. Distinguish between genotype and phenotype.
12. Comment on pleiotropism.
13. What is Down syndrome?
14. Distinguish between sex limited and sex influenced genes.
15. Comment on co dominance.
16. Define lethal genes. Which are the types of lethal genes?
17. Comment on Synapsis and Terminalisation.
18. Explain mitochondrial DNA.
19. What are holandric genes?
20. What is dosage compensation?
21. Comment on Rh factor.
22. What is cDNA library?

(8 × 2 = 16 Marks)

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

23. Write a note on DNA finger printing.
24. Elaborate hazards of genetic engineering.
25. Write a brief note on multiple alleles.

26. Comment on sex linked inheritance.
27. Describe numerical aberrations of chromosomes in man.
28. Write briefly on cytoplasmic inheritance.
29. Comment on epistasis.
30. Explain different types of blotting techniques
31. Explain reproductive cloning.

(6 × 4 = 24 Marks)

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

32. Write an essay on genetic engineering.
33. Explain the various types of mutations.
34. Describe sex determination in animals.
35. Write an essay on Morgan's work on Drosophila, to explain linkage.

(2 × 15 = 30 Marks)
