

B. Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2017**SEMESTER VI - ZOOLOGY****ZOO6GBT - GENETICS AND BIOTECHNOLOGY****Time: Three Hours****Maximum Marks: 60****PART A****I. Answer all questions. Each question carries 1 mark.**

1. Differentiate test cross from back cross.
2. What is pleiotropism?
3. Comment on Rh factor.
4. What are linked genes?
5. Describe linkage maps.
6. Define Barr body.
7. Differentiate transition and transversion.
8. Define plasmagenes.

(8 × 1 = 8)**PART B****II. Answer any six questions. Each question carries 2 marks**

9. Critically analyze Mendel's Second law of inheritance.
10. Comment on codominance.
11. Give an account on lethal genes.
12. What is epistasis?
13. What is Chromosome theory of linkage?
14. Explain Chromosome theory of sex determination.
15. Describe Lyon hypothesis.
16. Explain tautomerisation.
17. What are frame shift mutations?
18. Explain kappa particles.

(6 × 2 = 12)**PART C****III. Answer any four questions. Each question carries 4 marks.**

19. Comment on the Chromosome theory of heredity.
20. Explain the genetic basis of Erythroblastosis foetalis.
21. Write notes on Morgan's experiment on Drosophila to show complete and incomplete linkage.
22. Explain the hormonal influence in sex determination by giving suitable examples.
23. Briefly describe chemical mutagens.
24. Describe the characteristics of extra nuclear inheritance.

(4 × 4 = 16)

PART D

IV. Answer any two questions. Each question carries 12 marks.

25. Describe Mendelian laws citing suitable examples.
26. Explain different types of allelic and non-allelic interactions with examples for each.
27. Describe the different types of sex determination mechanism seen in animals.
28. Give an account on chromosomal mutations.

(2×12= 24)