

2021
B.A./B.Sc.
Fifth Semester
CORE – 12
ZOOLOGY
Course Code: ZOC 5.21
(Principles of Genetics)

Total Mark: 70

Pass Mark: 28

Time: 3 hours

Answer five questions, taking one from each unit.

UNIT-I

1. Explain the principles of inheritance, incomplete dominance and co-dominance. 5+5+4=14
2. Write a note on epistasis and pleiotropy 7+7=14

UNIT-II

3. Discuss on the two type of linkages. What is somatic cell hybridization? 9+5=14
4. Explain the molecular mechanisms of crossing over including the models of recombination. 14

UNIT-III

5. Explain in detail the different types of gene mutations with illustration. 14
6. What are the different types of chromosomal aberrations? Give one suitable example of each type. Add a note on CLB method. 9+5=14

UNIT-IV

7. Describe the infective heredity in paramaecium with suitable diagram.

Explain the chromosomal mechanism of sex determination in drosophila.

8+6=14

8. Explain the mitochondrial mutations in saccharomyces. What are the criteria for extra chromosomal inheritance? 10+4=14

UNIT-V

9. What are transposons? Explain the different types of transposons. Add a note on polygenic inheritance with suitable example. 2+5+7=14
10. Discuss in detail about the conjugation, transformation and transduction in bacteriophages with suitable diagram. 14
