

2021
M.Sc.
First Semester
CORE – 01
ZOOLOGY
Course Code: MZOC 1.11
(Genetics & Cytogenetics)

Total Mark: 70

Pass Mark: 28

Time: 3 hours

Answer five questions, taking one from each unit.

UNIT-I

1. Explain the non-Mendelian genetics with reference to infectious hereditary-Kappa in paramecium. 14
2. Give an account on Hardy-Weinberg equilibrium. Add a note on polygenic inheritance. 8+6=14

UNIT-II

3. Explain the different types of linkage and add a note on recombination mapping by 3 points test cross. 7+7=14
4. Describe the principle and method of transfection of cell. Add a note on the application of embryonic stem cell. 8+6=14

UNIT-III

5. Describe the different types of DNA damage. Explain the mechanism of DNA repair. 6+8=14
6. Give an account on transposable genetic element in eukaryotes. Add a note on hybrid dysgenesis in Drosophila. 8+6=14

UNIT-IV

7. Elaborate the different methods of gene transfer. 14

8. Give an account on sex chromosomal anomalies with examples. Add a note on hyperactivity of X-chromosome in male drosophila. 10+4=14

UNIT-V

9. Explain the role of the Rb protein in cell cycle control in on and off mode. 14
10. Write short notes on 7×2=14
- (i) Chronic Myeloid leukemia
 - (ii) Viral oncogenes
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