

May 2025
M.Sc.
Second Semester
CORE – 05
ANTHROPOLOGY
Course Code: MANC 2.11
(Human Genetics & Variation)

Total Mark: 70

Pass Mark: 28

Time: 3 hours

Answer five questions, taking one from each unit.

UNIT-I

1. What is RNA? Explain the different types of RNA and mention their functions. 2+8+4=14
2. Elaborate on the meiotic cell division with suitable diagram. 14

UNIT-II

3. Explain genotype and allele frequency with examples. 14
4. Define genetic distance. Discuss how this can be used to understand evolution. 2+12=14

UNIT-III

5. Briefly discuss the biological and cultural adaptation that humans adopt to cope with cold stress. 14
6. Explain the adaptive significance of human variation to solar radiation. 14

UNIT-IV

7. Define polymorphism. Discuss the different types of DNA polymorphism. 2+12=14
8. Elucidate the main components of the synthetic theory of evolution. Critically analyse how this theory improved upon Darwin's original

ideas. Support your answer with an example from modern biology.

14

UNIT-V

9. Elaborate on Lyon hypothesis and explain the applicability of the hypothesis to genetics. 14
10. Write a note each on the following: 7×2=14
- (a) Significance of Hardy-Weinberg equilibrium in population genetics
 - (b) Sex-linked genes
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