2022
B.A./B.Sc.
Fifth Semester
CORE – 11
ANTHROPOLOGY
Course Code: ANC 5.11
(Human Population Genetics)

Total Mark: 70   *Pass Mark: 28*
Time: 3 hours

Answer <u>five</u> *questions from the following.*

1. Discuss in detail on the principles of human genetics.   14

2. Discuss on the relationship between sickle cell and malaria.   14

3. Discuss on transient polymorphisms in human genome.   14

4. What are co-dominant alleles? In a sample of 6129 Caucasoid population with three groups of phenotype and genotype on MN blood system with a distribution of M as 1787, MN as 3039 and N as 1303, calculate the allele and genotype frequencies. Determine whether the population is a Hardy-Weinberg equilibrium.   2+10+2=14

5. Define natural selection. Discuss on the pattern and mechanism of natural selection.   2+12=14

6. Define genetic counselling. Discuss on the application of genetic counselling with example.   2+12=14

7. What is Mendelian inheritance? Discuss the pattern of autosomal dominant inheritance with relevant example.   2+6+6=14

8. Write short notes on <u>*any two*</u> of the following: 7×2=14
   (a) Random mating
   (b) Types of mutation
   (c) Ecological genetics
   (d) Single factor inheritance
   (e) Genotype and allelic frequencies

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