2016

M.Sc.

4th Semester Examination

BIOLOGICAL ANTHROPOLOGY

PAPER—ANT-401(B)

Full Marks : 50

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Answer Q. No. 1 and three questions from the rest.

1. Answer any *five* questions :   5×2

   (a) What is natural selection ?

   (b) What is meant by inbreeding coefficient ?

   (c) What is meant by preferential mating ?

(Turn Over)

(d) What is genotype frequency ?

(e) What is meant by genetic polymorphism ?

(f) Define Point mutation.

(g) What do you mean by Reproductive isolation ?

(h) What is homozygosis ?

2. Differentiate inbreeding and outbreeding. Calculate the inbreeding coefficient of full sib and half sib mating with suitable pedigrees.   2+8

3. What is meant by genetic structure of a population ? In a study among a tribal population of Darjeeling, a biological anthropologist observed the following phenotypes with respect to MN blood group system among them. While total number of individuals tested for the said blood group system was 205, 112 individuals were of M blood group and 82 individuals were of MN blood group and 11 of N blood group. Estimate the allelic frequencies of the MN blood group system of the population investigated.   3+7

4. Briefly discuss about different types of Mating system.
                                                                                    10

5. (a) It was observed in an investigation that 7 out of 183 males in a tribal population were affected with red-green colour blindness of deutan type, while none was observed to have protan type. Estimate the frequency of red-green colour blind allele of deutan type in the study population.

(b) How would you distinguish between population genetics and molecular genetics? Illustrate your answer briefly. 5+5

6. Define genone and gene pool. 1/3rd of a population is found to be Rh(+ve). 300 individuals are found to be Rh(–ve). Of the total Rh(+ve) individuals, 100 are found to be homozygous. Calculate the allele frequency of Rh(+ve) and RH(–ve). 4+6

(Internal Assessment – 10 Marks)

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