B.Tech. (BT&BI) VIII Semester

Course Code: 11B1WBT834   MAX. MARKS: 35
Course Name: Genetic Counseling
Course Credits: 03   MAX. TIME: 2 Hrs

Q1: a) What are the challenges faced by a genetic counselor? Elaborate with the help of examples.
b) What is androgen insensitivity syndrome? How does it lead to interxex? Highlight the ethical issuese linked to intersex genetic counseling.   [2.5+2.5]   COIV

Q2: a) How will you conduct a counseling session for a10 years old autistic child?
b) All daughters of the affected man will inherit the mutant gene. Justify your answer by providing suitable examples.   [2.5+2.5]   COII

Q3: a) Explain the merits and demerits of directive and non-directive genetic counseling.
b) What are the common malformations in Bardet-Biedl syndrome?   [2.5+2.5]   COI

Q4: a) Describe the ways and basis of risk estimation for a disease/disorder during prenatal testing.
b) What is 23&Me? Elaborate its significance.
c) What is the genetic basis of Huntington Disease?   [2+2+1]   COII

Q5: a) What are the medical and cultural considerations of genetic counseling of deaf?
b) Is germ line gene therapy ethically acceptable? Justify your answer.   [2.5+2.5]   COIII

Q6: a) A patient is suffering from Stage 2 symptoms of Parkinson's disease at the age of 62. Plan a genetic counseling session for him and for his family members.
b) Why does genetic counseling testing for Parkinson's disease is complex? [2.5+2.5]   COIV

Q7: a) A person is having normal complement of 46 chromosomes; however one member of his chromosome 1 pair contains an inversion sequence covering the 80% of its length. He would like to plan his family. What can you predict about the probability of abnormality/normality of the future children assuming that his wife is not having any chromosomal aberrations?

b) What is Klinefelter syndrome? Explain its cause, diagnosis and treatment options available.

c) The frequency of two alleles in a gene pool is 0.25 (A) and 0.75(a). Assume that population is in Hardy-Weinberg equilibrium:- i) Calculate the percentage of heterozygous individuals in population.   ii) Calculate the percentage of homozygous individuals in population.
                                                                           [2+2+1]   COII