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3 (Sem-6/CBCS) ANT HE 2

2025

ANTHROPOLOGY

(Honours Elective)

Paper : ANT-HE-6026

(Human Genetics)

Full Marks : 60

Time : Three hours

***The figures in the margin indicate
full marks for the questions.***

1. Answer the following in shorts : $1 \times 7 = 7$

(a) What is the sugar molecule that makes up the backbone of DNA ?

(b) What is the primary function of RNA ?

(c) Write the full form of SNPs.

(d) What is the characteristics of mitochondrial inheritance ?

(e) What is chromatid ?



(f) What is the most common genetic disorder caused by trisomy ?

(g) What is the term used for the existence of two or more different forms of a gene or trait in a population ?

2. Give brief answers : $2 \times 4 = 8$

(a) What is epigenetics ?

(b) What is meant by phenotype and genotype ?

(c) Mention *two* functions of RNA.

(d) What is human genome ?

3. Write short notes on **any three** of the following : $5 \times 3 = 15$

(a) DNA repair and recombination

(b) Genetic mapping

(c) Pedigree analysis

(d) Relationship between gene and protein

(e) Genetic polymorphism

4. Answer **any three** of the following questions : $10 \times 3 = 30$

(a) Describe the structure and organization of human chromosomes in details.

(b) Discuss the role of genetic variation including SNPs, CNVs and structural variations in human diseases.

(c) Explain the chromosomal basis of genetic disorders like Down Syndrome.

(d) Describe the process of gene expression including transcription and translocation.

(e) Discuss about genomic diversity among Indian population.