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D6BZL2105

Reg.No.....

Name:

**SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2024
(Regular/Improvement/Supplementary)**

**ZOOLOGY
GZOL6E01T: HUMAN GENETICS**

Time: 2 Hours

Maximum Marks: 60

**SECTION A: Answer the following questions. Each carries *two* marks.
(Ceiling 20 Marks)**

1. Write a note on pharmacogenetics and its significance.
2. Comment on the inheritance of Alzheimer's disease.
3. What are ring chromosomes?
4. Write a note on the significance of human variability based on mitochondrial DNA.
5. What is amniocentesis? Add a note on its application.
6. Give two examples of autosomal dominant disorders. Mention symptoms of each.
7. Write down the genetic basis and clinical features of Duchenne muscular dystrophy.
8. What is alpha fetoprotein screening?
9. What is familial hypercholesterolemia?
10. Comment on the "Out of Africa" theory of Asia.
11. What are the types of chromosomal non-disjunction?
12. Write a short note on genomic imprinting.

**SECTION B: Answer the following questions. Each carries *five* marks.
(Ceiling 30 Marks)**

13. Write notes on any two disorders related to errors in sexual development during prenatal development.
14. Explain the technique and applications of FISH.
15. Comment on twin development and significance of twin studies.
16. Construct pedigree trees for autosomal dominant and recessive inheritance and point out the significant differences.
17. Write notes on ASD and VSD.
18. Write a paragraph on chromosome classification in the Denver system.
19. What is Cystic fibrosis? Comment on the detection method of CF homozygotes and carriers.

SECTION C: Answer any *one* question. Each carries *ten* marks.

20. Define karyotyping. Write an essay on the different banding techniques employed in chromosomal studies.
21. What is genetic counselling? Comment on the various methods of counselling, and its merits, with special mention to the psychodynamics of genetic counselling.

(1 x 10 = 10 Marks)