

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2023**(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 short note on R banding.
2. What is karyotyping?
3. Briefly describe how genetic mosaicism arises due to non-disjunction.
4. List out the symptoms associated with cri-du-chat syndrome.
5. What are the characteristic features of Y linked trait?
6. What is leukocoria? Name genetic disease to which it is related.
7. What are congenital heart disorders?
8. Comment on the factors leading to hypertension.
9. What is Alzheimer's disease?
10. Differentiate between directive and non-directive counselling.
11. What is the importance of twin studies to genetics?
12. Discuss the role of genetic counselor.

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

13. Detail out the preparation and characterisation of non-banded human chromosomes.
14. Describe sex chromosomal non disjunction and their effects.
15. Explain the genetics of fragile X chromosome. List out the phenotypic manifestations.
16. What is pedigree analysis? Describe its construction and significance.
17. Write a detailed note on congenital adrenal hyperplasia.
18. Explain how segmentation and pattern formation occurs in a developing embryo.
19. Briefly explain the theory of African origin of modern humans.

SECTION C: Answer any 1 question. Each carries *ten* marks.

20. Describe the inheritance pattern, symptoms and mutation, of a) Huntington's disease, b) Arachnodactyly, c) Ehler's Danlos syndrome and d) familial hyper cholesterolemia
21. What is prenatal diagnosis? Explain non- invasive techniques with suitable examples.

(1 x 10 = 10 Marks)