

**FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2025**

**(Regular/Improvement/Supplementary)**

**ZOOLOGY: Complementary Course for Botany**

**GZOL4C04T: GENETICS AND IMMUNOLOGY**

**Time: 2 Hours**

**Maximum Marks: 60**

**SECTION A: Answer the following questions. Each carries *two* marks.**

**(Ceiling 20 marks)**

1. Differentiate between Eugenics and Euthenics.
2. What is meant by cross reactivity in immunology?
3. What is Barr body? How is it significant?
4. Comment on pseudogenes.
5. What are cytokines?
6. Briefly describe the Central dogma of molecular biology.
7. What are the hazards of genetic engineering?
8. What is Phenylketonuria?
9. Differentiate between sarcoma and carcinoma.
10. What are transposons?
11. Discuss the principle of RIA.
12. What is Grave's disease?

**SECTION B: Answer the following questions. Each carries *five* marks.**

**(Ceiling 30 marks)**

13. What is meant by sex mosaicism? Explain gynandromorphism as a form of sex mosaicism.
14. What is meant by genetic code? Discuss its major features.
15. Discuss the Denver scheme for grouping of human chromosomes.
16. Explain precipitation and agglutination reactions in immunology.
17. What are cloning vectors? Explain any two types.
18. Differentiate between primary and secondary immunodeficiency diseases. Discuss briefly with an example for each type.
19. What are the characteristics of cancer cells?

**SECTION C: Answer any *one* question. The question carries *two* marks.**

20. Describe the steps of rDNA technology.
21. Discuss in detail the various organs of the immune system.

**(1 × 10 = 10 Marks)**