

D. K. M. COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1**SEMESTER EXAMINATIONS****JUNE - 2022****19CZO4A****GENETICS****Time: 3 Hours****Max. Marks: 75****SECTION – A (10 x 2 = 20)****Answer ALL the questions.****Define / Explain the following.**

1. Test cross.
2. Atavism.
3. Linkage.
4. Sex determination.
5. Barr bodies.
6. Kappa particles.
7. Sickle cell anemia.
8. Hybrid vigour.
9. Split genes.
10. Hardy-Weinberg law.

SECTION – B (5 x 5 = 25)**Answer ALL the questions.**

11. (a) Briefly explain the various Mendelian laws of Inheritance.

(Or)

- (b) Write a short notes on the following: i) Epistasis ii) Lethal genes.

12. (a) Elaborate briefly Morgan's experiment on Linkage in *Drosophila*.

(Or)

- (b) Write a brief note on different mutant forms of *Drosophila*.

13. (a) Explain briefly the chromosomal and hormonal theory in man.

(Or)

- (b) Write a short note on X-linked and Y-linked inheritance in man.

14. (a) Give a brief account on inborn errors of metabolism.

(Or)

- (b) Discuss briefly about gene mutations.

15. (a) Comment on the concept of gene.

(Or)

- (b) Explain the following: i) Transformation ii) Conjugation.

SECTION – C (3 x 10 = 30)**Answer any THREE of the following questions.**

16. What are multiple alleles? Describe multiple alleles with the help of ABO blood group in man.
17. Comment on the importance of mechanism of Crossing over and its types.
18. Discuss in detail about any three genetic disorders in man.
19. Elaborately explain different types of chromosomal aberrations.
20. Describe in detail about regulation of Lac Operon.