23110688

**QP CODE: 23110688**

**Reg No : .....**

**Name : .....**

# B.Sc DEGREE (CBCS ) SPECIAL SUPPLEMENTARY EXAMINATIONS, APRIL 2023

## Fifth Semester

## CORE COURSE - ZY5CRT06 - CELL BIOLOGY & GENETICS

Common for B.Sc Zoology Model I, B.Sc Zoology Model II Aquaculture, B.Sc Zoology Model II Food Microbiology, B.Sc Zoology Model II Medical Microbiology, B.Sc Biological Techniques and Specimen Preparation Model III & B.Sc Zoology and Industrial Microbiology Model III Double Main

2020 Admission Only

DE82AD26

Time: 3 Hours Max. Marks : 60

**Part A**

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. Write the characteristics of virus.
2. Who proposed unit membrane model?
3. What is perinuclear space?
4. Balbiani examined slides having the salivary gland cells of Chironomous larvae and found out something special. What did he find?
5. Which are the different type of cell divisions?
6. What are supplementary genes?
7. Define pleiotropism.
8. What do you mean by Linkage Group?
9. State whether true or false: If false, write the correct statement. ‘The longer the chromosome, the lesser the number of chiasmata’.
10. Who proposed the 'mutation theory of evolution'?
11. Differentiate between hypoploidy and hyperploidy.
12. What is acrocentric chromosome?

(10×1=10)

**Part B**

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Discuss the role of ribosomes in protein synthesis.
14. What are the characteristic structural features of mitochondria that aid in their identification.
15. What are receptors? Write a short note on cell surface receptors.
16. Explain in detail Mendel's Law of Segregation giving example.
17. Explain gene interactions.
18. Distinguish male heterogamy from female heterogamy ,giving examples.
19. What are the characteristics of sex linked inheritance? Explain Y-Linked inheritance with an example.
20. Explain Sickle Cell anemia.
21. Write an account on the inborn errors of metabolism?

(6×5=30)

**Part C**

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Describe in detail the passive and active transport mechanisms in the cell.
23. What are multiple alleles? Illustrate by giving an example.
24. Explain the Hormonal and Environmental influence on sex determination with examples.
25. What are the types of chromosomal abnormalities in man? Explain with examples.

(2×10=20)