

QP CODE: 25006020

B.Sc DEGREE (CBCS) SPECIAL REAPPEARANCE EXAMINATIONS, FEBRUARY 2025

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

2022 Admission Only

6343F08F

Time: 3 Hours

Max. Marks : 60

Part A

Answer any **ten** questions. Each question carries **1** mark.

- 1. Distinguish between virions and virioids.
- 2. What is clathrin?
- 3. What are oxysomes or F1 particles?
- 4. Balbiani examined slides having the salivary gland cells of Chironomous larvae and found out something special. What did he find?
- 5. What is meant by juxtacrine signalling?
- 6. What are allelic interactions?
- 7. What are complementary genes?
- 8. How many Linkage Groups are there in man?
- 9. Why a chromosome map is also called as a cross over map?
- 10. What are inversions?
- 11. Define telocentric chromosome.



12. Explain Brachydactyly.

 $(10 \times 1 = 10)$

Part B

Answer any **six** questions.

Each question carries **5** marks.

- 13. Write short note on sarcoplasmic reticulum.
- 14. Briefly explain the structure of nuclear pore complex with the help of a diagram.
- 15. Draw a neat labelled diagram of the first mitotic division and cytokinesis.
- 16. Explain the Principle of Dominance giving example.
- 17. Explain polygenic inheritance with reference to skin colour in man.
- 18. Explain Chromosome theory of sex determination .
- 19. Explain the significance of Lyonization.
- 20. Give an account of structural aberrations of chromosome.
- 21. Discuss the genetics and symptoms of alkaptonuria and phenylketonuria.

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **10** marks.

- 22. Give an acount on the various models of plasma membrane.
- 23. Explain the inheritance of ABO blood group in man.
- 24. Explain sex linked inheritance with hemophilia as an example.
- 25. What are the types of chromosomal abnormalities in man? Explain with examples.

(2×10=20)