QP CODE: 23104759

23104759

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR/IMPROVEMENT/REAPPEARANCE EXAMINATIONS, FEBRUARY 2023

First Semester

B.Sc Botany and Biotechnology Model III Double Main

Core Course - BO1CRT15 - CELL BIOLOGY, DEVELOPMENTAL BIOLOGY AND EVOLUTION

2017 Admission Onwards

D4E1CA94

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

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

1. State Cell theory.
2. What is gap junction?
3. Differentiate satelite chromosome and satelite DNA.
4. Mention the difference constitutive and facultative heterochromatin.
5. What are the stages of interphase?
6. Expand JAK-STAT.
7. What is competence?
8. Differentiate conditional and autonomous specification.
9. Give any two maternal genes in development of drosophila.
10. What is a tetrad in microsporogenesis?
11. What do you mean by genetic drift?
12. What is sequencing?

(10×1=10)

Part B

*Answer any **six** questions.*

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

13. Explain the structure of nuclear pore complex with diagram.

14. How does cytoskelton help in cell motility?

15. What are the structural features of polytene chromosomes?

16. Discuss on the syndromes associated with different trisomy.

17. Explain the importance of cell cycle checkpoints in cell cycle regulation.

18. Explain the process of transformation of a spermatid to sperm with help of diagram.

19. Briefly explain different morphogenetic movements during gastrulation.

20. Comment on root and shoot apical meristem.

21. Give a short note on molecular clock.

(6×5=30)

Part C

*Answer any **two** questions.*

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

22. Discuss on different gene mutations.

23. Explain the recent developments in stem cell research.

24. Compare and contrast the events of internal and external fertilization.

25. Explain the development of Caenorhabiditis elegans.

(2×10=20)