QP CODE: 21000411

Reg No : .....

Name : .....

M Sc DEGREE (CSS) EXAMINATION, MARCH 2021

Third Semester

Faculty of Science

M Sc ZOOLOGY

CORE - ZL010302 - CELL AND MOLECULAR BIOLOGY

2019 Admission Onwards

A0B47CD9

Time: 3 Hours Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. What is membrane potentials?
2. Explain the structure of mitochondria
3. What is Z line?
4. What is meant by the term signal transduction?
5. What is JAK kinase ?
6. Define introns and exons
7. What is the histone code?
8. Write on the cell fusion experiments that led to the discovery of the factors controlling cell cycle.
9. Comment on replicative cell senescence.
10. Write notes on angiogenesis and cancer promoting proteins in the treatment of cancer.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

*Weight **2** each.*

11. Dfifferentiate between Fibronectin and Laminin
12. Differentiate between selectins and immunoglobulins.
13. Explain the role of Cyclic-AMP in cell signaling.
14. Write notes on the PIP3 kinase pathway.
15. Elaborate on riboswitches.
16. E. coli cells always prefer using Glucose over other sugars. Explain why.
17. Elaborate on the main events characteristic to each phase in cell cycle with emphasis on the change in amount of DNA.
18. Explain in detail about Carcinogens.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. Explain the post translational modifications happen at endoplasmic reticulum and golgi complex. Why it is important for protein formation?
20. Explain the mechanism of action of Insulin and signalling by an RTK
21. Write an essay on Translation process in prokaryotes
22. Describe the different apoptotic pathways and give a note on its significance.

(2×5=10 weightage)