QP CODE: 24044700

24044700

Reg No : .....

Name : .....

M.Sc DEGREE (CSS) EXAMINATION, OCTOBER 2024

Third Semester

M.Sc ZOOLOGY

CORE - ZL010302 - CELL AND MOLECULAR BIOLOGY

2019 ADMISSION ONWARDS

559F9E9C

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

*Weight **1** each.*

1. What is Facilitated?
2. Give note on protein glycosylation?
3. Give note on Microtubules.
4. Give note on Extracellular messengers.
5. Write short note on TGF signaling pathway.
6. Mention the role of rho factor in prokaryotic transcription.
7. What do you mean by monocistronic and polycistronic DNA.
8. Write on chromosome passenger complex.
9. What are the different types of cancer?
10. Cancer treatment can be done by inhibiting the activity of cancer promoting proteins. Explain.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

*Weight **2** each.*

11. Give an account on different cell junctions.
12. Identify the structure and function of mitochondria
13. Write a short note on ion channel receptors.
14. Explain the role of calcium as an intracellular messenger

15. Comment on transcription factors and mention the specific functions of atleast three of them.

16. Discuss on the various methods to identify post translational modifications.

17. In an asynchronous cell culture, 150 cells are in G1 phase, 250 cells are in S phase 75 cells are in G2 phase and 25 cells are in M phase. The total duration of cell cycle is 22 hours. Determine the length of each phase in cell cycle.

18. Outline and explain the steps that lead to apoptosis from an intracellular signal.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. Explain the mechanism of cell interacton with extracellular matrix. Why it is important?

20. Explain the cell signalling mechanism in RTKs and Cytokine receptors.

21. Explain Translation in eukaryotes

22. Write an essay on the genetics of cancer, giving special mention to the genes involved?

(2×5=10 weightage)