TM243143X

Reg. No :.....

Name :.....

MASTER'S DEGREE (C.S.S) EXAMINATION, NOVEMBER 2024

2023 ADMISSIONS REGULAR

SEMESTER III - CORE COURSE ZOOLOGY

ZO3C10TM20 - Cell Biology

Time : 3 Hours **Maximum Weight : 30**

Part A

I. Answer any Eight questions. Each question carries 1 weight **(8x1=8)**

1. Infer the key differences between flippase and floppase.
2. Evaluate the role of scramblases.
3. Comment on nucleolus.
4. Define endosomes. Add a note on its classification.
5. Discuss critically on microtubule – associated proteins. Quote examples.
6. Categorize cell surface receptors based on their mode of action.
7. What are G proteins? How are they activated during cell signaling?
8. Trace the role of nitric oxide as an intercellular messenger.
9. Highlight the significance of apoptosis.
10. Evaluate the significance of meiosis.

Part B

II. Answer any Six questions. Each question carries 2 weight **(6x2=12)**

11. Describe matrix polysaccharides with suitable examples.
12. Explicate on the different types of ion channels.
13. Summarize the structure and functions of lysosomes.
14. Implicate the significance of ribosomes in biosynthesis of proteins.
15. What is MTOC? Describe the structure and functions of different types of MTOC.
16. Explain cyclic – AMP pathway. Evaluate the role of protein kinase A.
17. Summarize the different modes of signaling with proper illustrations.
18. Give details on the steps in cell cycle with the aid of labelled diagrams.

Part C

III. Answer any Two questions. Each question carries 5 weight **(2x5=10)**

19. Elaborate on the dynamic nature of the plasma membrane with relevant illustrations.
20. Examine critically the mechanism of protein sorting pathway in eukaryotic cell.
21. What is signal transduction? Explain the process with the help of any three signal transduction pathways.
22. "Apoptosis is a normal occurrence in which an orchestrated sequence of events leads to the death of a cell". Substantiate this statement.