17/10/25

TM2538210

Reg. No :.....

Name :.....

MASTER'S DEGREE (C.S.S) EXAMINATION, OCTOBER 2025

2024 ADMISSIONS REGULAR

SEMESTER III - CORE COURSE

ZO3C10TM20 - Cell Biology

Time : 3 Hours

Maximum Weight : 30

Part A

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

1. Explain bulk transport with suitable diagrams.
2. Compose a brief note on plasmodesmata.
3. Depict Glyoxylate cycle in plants.
4. Demonstrate the role of endoplasmic reticulum.
5. Discuss critically on microtubule – associated proteins. Quote examples.
6. Assess the regulatory mechanism of GPCR pathway.
7. Explain the process of autophosphorylation of receptors with kinase activity.
8. Trace the role of nitric oxide as an intercellular messenger.
9. Point out the role of cyclins in cell cycle regulation.
10. Infer the significance of mitosis.

Part B

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

11. Give a brief account on the structure and function of focal adhesions.
12. Enumerate the major functions of plasma membrane.
13. Elaborate on glyoxysomes.
14. Enumerate the salient features of peroxisomes. Indicate its functions.
15. Explain the sliding filament model for muscle contraction.
16. Restate the events in GPCR pathway. Interpret its role in rod cells.
17. Give an account on TGF signaling pathway.
18. Formulate notes on check points in cell cycle regulation.

Part C

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

19. Explain the mechanism of cell – cell interaction at the molecular level.
20. Compute the mechanism of protein sorting in endoplasmic reticulum & golgi apparatus.
21. Write an elaborate essay on different types of extracellular messengers involved in cell signaling.
22. "Apoptosis is a normal occurrence in which an orchestrated sequence of events leads to the death of a cell". Substantiate this statement.