

Third Semester M.Sc. Degree Examination (CSS) - Zoology

ZYT3CT12 Course XII - CELL AND MOLECULAR BIOLOGY

Time: 3 hrs

Total weight: 30

Section I -Short answer type questions

Weight -1

Answer any 10 out of 12

1. Briefly describe non muscular motility
2. What is Microtubule organizing centre (MTOC)?
3. What are second messengers? Give examples.
4. Briefly describe signal hypothesis.
5. What are lysosomes?
6. Comment on protein sorting.
7. Write notes on catabolite repression.
8. Comment on RNAi.
9. Mention different types of receptors.
10. Comment on riboswitches.
11. Write notes on membrane fluidity.
12. Comment on “central dogma of molecular biology”.

Section II- Short essay type questions

Weight -2

Answer any 5 out of 8

13. Give an account on ion channels in plasma membranes.
14. Discuss the structure and functions of intermediate filaments.
15. Give an account on the GPCR pathway in rod cells of the eye.
16. Describe the structure and functions of ribosome.
17. Narrate the different strategies for the treatment of cancer.
18. Explain apoptosis and mention its significance in organisms.
19. Write notes on extracellular matrix.
20. Discuss the extrinsic and intrinsic pathways of apoptosis.

Section III – Long essay type questions

Weight -5

Answer any 2 out of 3

21. Explain the different aspects of cell cycle. Add a note on control and check points in cell cycle.
22. Compare and contrast the process of transcription in prokaryotes and eukaryotes.
23. Describe gene regulation in eukaryotes.