Reg. No ..... Name **25U529**

B. Sc. DEGREE END SEMESTER EXAMINATION - OCTOBER 2025

SEMESTER 5 : ZOOLOGY

COURSE : **19U5CRZOO05 : CELL AND MOLECULAR BIOLOGY**

(For Regular 2023 Admission and Supplementary 2022/ 2021/ 2020/ 2019 Admissions)

Time : Three Hours Max. Marks: 60

PART A

Answer All (1 mark each)

1. Define a proteosome.
2. What is a linker DNA?
3. What is amitosis?
4. Differentiate between the ribosomes of Prokaryotes and Eukaryotes.
5. Define Muton.
6. What is GAAP and its function?
7. Define exons.
8. Give an example for autocrine and paracrine signalling.

(1 x 8 = 8)

PART B

Answer any 6 (2 marks each)

9. What is a catabolite activator protein (CAP)?
10. Comment on the significance of mitosis.
11. Differentiate between channel proteins and carrier proteins.
12. Comment on autocrine signalling.
13. Describe the mechanism of DNA replication?
14. Write a short note on the prokaryotic cytoskeleton.
15. Comment on the Nuclear pore complex.
16. Explain about Okazaki fragment?

(2 x 6 = 12)

PART C

Answer any 4 (4 marks each)

17. Write the features of the genetic code.
18. Describe Avery transformation experiments.
19. Comment on the positive regulation of lac operon.
20. Write a detailed account of passive transport by the plasma membrane.
21. How does the nuclear membrane, nuclear pore, nucleolus and chromatin work together to maintain the integrity and function of the nucleus?
22. Elaborate on the functions of the Golgi apparatus.

(4 x 4 = 16)

PART D

Answer any 2 (12 marks each)

23. Describe the functions of the mitochondria.
24. Describe eukaryotic gene regulation.

25. Elaborate on the giant chromosomes.
26. Explain the different transport mechanisms across the plasma membrane with suitable illustrations.

(12 x 2 = 24)