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School of Biological and Life sciences

Master of Science in Zoology
Mid Term Examination - Nov 2023

Duration : 90 Minutes
Max Marks : 50

Sem I - P1PN101B - Advanced CytologyGeneral Instructions

Answer to the specific question asked

Draw neat, labelled diagrams wherever necessary

Approved data hand books are allowed subject to verification by the Invigilator

- 1) What distinguishes prokaryotic cells from eukaryotic cells? K2 (2)
- 2) Name the key DNA polymerase enzyme responsible for replicating the majority of the DNA strand in prokaryotes. K1 (3)
- 3) What are G-protein-coupled receptors (GPCRs), and why are they important in cell signaling? K2 (4)
- 4) What is the purpose of RNA primers in eukaryotic DNA replication, and how are they synthesized? Explain in detail. K2 (6)
- 5) Explain the difference between autocrine, paracrine, and endocrine signaling. K3 (6)
- 6) Illustrate the formation and function of Okazaki fragments in DNA replication. K3 (9)
- 7) What is the role of ion channels in facilitating the movement of ions across cell membranes? K4 (8)
- 8) Contrast the enzymes involved in DNA Replication in both Prokaryotes and Eukaryotes. K4 (12)

OR

How does bidirectional replication differ between prokaryotes and eukaryotes? K4 (12)