

B.Sc. Sem.-2 Examination**CC-3 - Paper-103****Biotechnology****May-2025****Time : 2-30 Hours]****[Max. Marks : 70**

Q.1. Draw a labelled diagram of prokaryotic cell. State the structural difference between prokaryotic and eukaryotic cells. (14)

OR

Q.1.A. Explain salient features of cell theory. (7)

Q.1.B. Write a short note on archaea. (7)

Q.2. Explain the types of cytoskeleton structure with neat labeled diagram. (14)

OR

Q.2.A. Outline with an example the process of exocytosis. (7)

Q.2.B. Write down the structure and functions of plant cell wall. (7)

Q.3. Describe the structure, composition and functions of Nucleus. (14)

OR

Q.3.A. Explain the ultra-structure of Golgi apparatus. (7)

Q.3.B. Give an account of the structure and functions of the lysosomes. (7)

Q.4. Discuss the process of Meiosis with its significance in detail. (14)

OR

Q.4.A. Write a note on Cell senescence. (7)

Q.4.B. Explain Cell cycle with check points. (7)

Q.5. Short Questions (Any 7) (14)

- 1) Draw diagrammatic presentation of Fluid Mosaic model
 - 2) Enlist any two significance of bacterial cell wall.
 - 3) Write postulates of protoplasm theory?
 - 4) Differentiate SER and RER.
 - 5) What is Phagocytosis? Write its significance.
 - 6) Define Apoptosis.
 - 7) What is Cell Biology? Who is the father of cell biology?
 - 8) Write two functions of peroxisomes.
 - 9) Differentiate between bacteria and archaea
 - 10) What are the two types of tumor? Write their differentiating features.
 - 11) Give two essential characteristics of cell.
 - 12) What is thylakoid? State its importance.
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