Chapter – 8 | Cell: The Unit of Life

QUIZ-01

1. The fundamental structural and functional unit of all living organisms is:
   A. Tissue B. Cell
   C. Organ D. Nucleus (B)

Explanation : A cell is capable of performing essential life functions and forms the basic unit of life.

2. Who first saw and described a live cell?
   A. Robert Brown
   B. Rudolf Virchow
   C. Antonie van Leeuwenhoek
   D. Matthias Schleiden (C)

Explanation : Antonie van Leeuwenhoek first observed and described a living cell.

3. The statement "all cells arise from pre-existing cells" was given by:
   A. Schwann
   B. Virchow
   C. Schleiden
   D. Singer (B)

Explanation : Rudolf Virchow explained that new cells are formed from pre-existing cells.

4. Cells without a membrane-bound nucleus are called:
   A. Eukaryotic cells B. Prokaryotic cells
   C. Plant cells D. Animal cells (B)

Explanation : Prokaryotic cells lack a well-defined membrane-bound nucleus.

5. Small circular DNA outside genomic DNA in bacteria is called:
   A. Chromatin
   B. Plasmid
   C. Ribosome
   D. Nucleolus (B)

Explanation : Plasmids are small circular DNA molecules present outside the main bacterial DNA.

6. The prokaryotic ribosome is:
   A. 80S B. 60S
   C. 70S D. 40S (C)

Explanation : Prokaryotic ribosomes are 70S, made up of 50S and 30S subunits.

7. The fluid mosaic model of plasma membrane was proposed by:
   A. Schleiden and Schwann
   B. Singer and Nicolson
   C. Watson and Crick
   D. Robert Brown (B)

Explanation : Singer and Nicolson proposed the fluid mosaic model in 1972.

8. Which organelle is known as the powerhouse of the cell?
   A. Golgi apparatus
   B. Lysosome
   C. Mitochondria
   D. Ribosome (C)

Explanation : Mitochondria produce ATP during aerobic respiration, so they are called powerhouses of the cell.

9. The endomembrane system includes:
   A. ER, Golgi complex, lysosomes and vacuoles
   B. Mitochondria, chloroplasts and ribosomes
   C. Nucleus, chromosome and nucleolus
   D. Cell wall, flagella and centrioles (A)

Explanation : ER, Golgi complex, lysosomes and vacuoles work in coordination and form the endomembrane system.

10. The usual arrangement of microtubules in eukaryotic cilia and flagella is:
    A. 9 + 0 B. 9 + 2
    C. 8 + 2 D. 7 + 2 (B)

Explanation : Eukaryotic cilia and flagella have a 9 + 2 arrangement of axonemal microtubules..