

Chapter – 10 | Cell Cycle and Cell Division**QUIZ
PART-01**

1. According to cell theory, new cells are formed from —

- A. Dead cells
- B. Pre-existing cells
- C. Non-living matter
- D. Cytoplasm only (B)

Explanation : Cell theory states that new cells arise from already existing cells through cell division.

2. Plant cell division was studied by —

- A. W. Flemming
- B. Strasburger
- C. Robert Hooke
- D. Farmer and Moore (B)

Explanation : Strasburger studied cell division in plants, while W. Flemming studied it in animals.

3. Which of the following cells generally do not divide?

- A. Epithelial cells
- B. Nerve cells
- C. Meristematic cells
- D. Blood-forming cells (B)

Explanation : The PPT mentions that animal nerve cells, muscle cells and plant guard cells do not divide.

4. Cell cycle includes —

- A. Only DNA replication
- B. Only cell growth
- C. Genome duplication, component synthesis and division
- D. Only nuclear division (C)

Explanation : Cell cycle is the sequence in which a cell duplicates its genome, synthesizes components and divides.

5. In the cell cycle, DNA synthesis occurs only during —

- A. G₁ phase
- B. S phase
- C. G₂ phase
- D. M phase (B)

Explanation : DNA replication takes place specifically in the synthesis or S phase.

6. A typical human cell culture completes one cell cycle in approximately —

- A. 90 minutes
- B. 24 hours
- C. 20–30 minutes
- D. 6 hours (B)

Explanation : The PPT gives the example of human cell culture dividing approximately every 24 hours.

7. Yeast cell cycle is completed in about —

- A. 24 hours
- B. 90 minutes
- C. 10 hours
- D. 30 days (B)

Explanation : Yeast completes its cell cycle in approximately 90 minutes.

8. The phase between two successive M-phases is called —

- A. Interphase
- B. Anaphase
- C. Cytokinesis
- D. Telophase (A)

Explanation : Interphase is the period between two successive divisions when the cell is not dividing.

9. During S phase, the amount of DNA changes from —

- A. 2C to 4C
- B. 4C to 2C
- C. n to 2n
- D. 2n to n (A)

Explanation : DNA amount doubles during S phase, but chromosome number remains the same.

10. Cells that exit G₁ phase and stop dividing enter —

- A. G₂ phase
- B. Quiescent G₀ phase
- C. Metaphase
- D. Prophase (B)

Explanation : Non-dividing cells enter the inactive or quiescent G₀ stage, but they remain metabolically active.