

**Class : XI<sup>th</sup>**  
**Date :**

**Subject : BIOLOGY**  
**DPP No. : 2**

**Topic :- Cell Cycle and Cell Division**

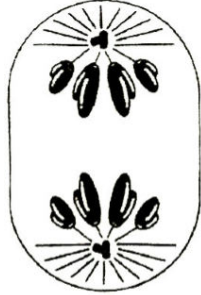
- During mitosis, number of chromosomes gets
  - Change
  - No change
  - May be change if cell is mature
  - May be change if cell is immature
- Chromosomes cluster at opposite spindle poles their identity is lost as discrete elements
  - Nuclear envelope assembles around the chromosome clusters
  - Nucleolus, Golgi complex and ER reformAbove features indicates which phase of mitosis
  - Anaphase
  - Telophase
  - Cytokinesis
  - S-phase
- What would be the change in the chromosome number, during S-phase?
  - No change
  - The number of chromosome doubles
  - The number of chromosome doubles only in case of diploid cell
  - The number of chromosome doubles only in case of haploid cell
- Arrange the following events of meiosis in a correct sequence and choose the correct option
  - Terminalisation
  - Crossing over
  - Synapsis
  - Disjunction of genomes
  - IV, III, II and I
  - III, II, I and IV
  - II, I, IV and III
  - I, IV, III and II
- What is the approximate percentage duration of cell cycle that comes under interphase in humans?
  - 99%
  - 95%
  - 25%
  - 5%
- Which of the following stage of meiosis is responsible for deciding genetic constitution of gametes?
  - Metaphase-II
  - Anaphase-II
  - Metaphase-I
  - Anaphase-I

7. ...A.... mitotic cell division is only seen in the diploid somatic cells, while the ...B... can show mitotic divisions in both haploid and diploid cells.

Identify A and B form the options given below

- a) A-Animals; B-plants    b) A-Plants; B-animals    c) A-Bacterial; B-viruses    d) None of these

8. Given diagram indicates which of the following phase of mitosis? Choose the correct option



- a) Interphase    b) Prophase    c) Metaphase    d) Anaphase

9. In meiosis, the chromosome number

- a) Reduces by half    b) Increase by twice  
c) Increase by four times    d) Reduces by one-fourth

10. The phase between two successive M-phase is called

- a) S-phase    b) G<sub>1</sub>-phase    c) G<sub>2</sub>-phase    d) Interphase

11. At the end of meiosis-II, number of haploid cells formed are

- a) Two    b) Four    c) Eight    d) None of these

12. The transition between meiosis-I and meiosis-II is

- a) Interkinesis    b) Cytokinesis    c) Diakinesis    d) Karyokinesis

13. Synapsis occurs between

- a) A male and a female gamete  
b) mRNA and ribosomes  
c) Spindle fibres and centromere  
d) Two homologous chromosomes

14. In which stage of cell division, chromosomes are most condensed?

- a) Prophase    b) Metaphase    c) Anaphase    d) Telophase

15. Which of the protein is found in spindle fibre?

- a) Tubulin    b) Albumin    c) Mucin    d) Haemoglobin

16. Which of the following events occurs during  $G_1$ -phase?
- a) DNA replication
  - b) Growth and normal function of cell
  - c) Mutation
  - d) Fertilization
17. Select the correct statements regarding S-phase of interphase
- I. Occurs between  $G_1$  and  $G_2$
  - II. DNA replication begins in the nucleus
  - III. Centrioles duplicate in the cytoplasm
  - IV. As DNA is doubled, number of chromosomes also doubles
- The option with correct statements is
- a) IV and III
  - b) I, II, III and IV
  - c) II, III and IV
  - d) I, II and III
18. A material, which arrests cell division, is obtained from
- a) *Crocus*
  - b) *Colchicum*
  - c) *Dalbergia*
  - d) *Chrysanthemum*
19. During cell division, sometimes there will be failure of separation of sister chromatids. This event is called
- a) Interference
  - b) Complementation
  - c) Non-disjunction
  - d) Coincidence
20. I. The cells that do not divide further, exit  $G_1$ -phase to enter an inactive stage called ...A... phase of the cell cycle
- II. The cells that are in  $G_2$ -phase definitely continue with the ...B... phase.
- Identify A and B to complete the given NCERT statements
- a) A- $G_0$ ; B-S
  - b) A-S; B- $G_0$
  - c) A-M; B- $G_0$
  - d) A- $G_0$ ; B-M