

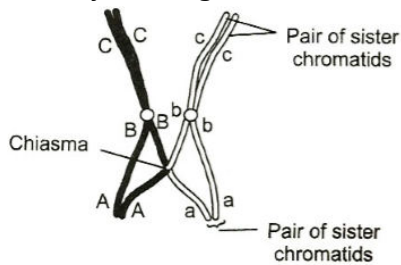
Class : XIth
Date :

Subject : BIOLOGY
DPP No. : 8

Topic :- Cell Cycle and Cell Division

- The interphase is divided into three main phases. These phases are
 - G₁-phase, M-phase and G₂-phase
 - M-phase, S-phase and divisional phase
 - Gap 1 phase, synthesis phase and gap 2 phase
 - M-phase G₂-phase and divisional phase
- In which of the following stages of the cell cycle chromosome number becomes half?
 - Metaphase-I
 - Anaphase-I
 - Prophase-I
 - Metaphase-II
- What type of plant is formed when colchicines is used in the process of development of *Raphanobrassica*?
 - Triploid
 - Haploid
 - Autotetraploid
 - Allotetraploid
- The proteins involved in the movement of chromosomes towards the poles during cell division are
 - Actin
 - Myosin
 - Tubulin
 - Elastin
- Which of the following specie's haploid cell has maximum chromosome counts?
 - Ophioglossum*
 - Cat
 - Allium*
 - Dog
- Which one of the following precedes re-formation of the nuclear envelope during M-phase of the cell cycle?
 - Decondensation from chromosome and reassembly of the nuclear lamina
 - Transcription from chromosomes and reassembly of the nuclear lamina
 - Formation of the contractile ring and formation of the phragmoplast
 - Formation of the contractile ring and transcription from chromosomes
- Synaptonemal complex is formed during
 - Pachytene
 - Zygotene
 - Leptotene
 - Diplotene

8. Identify the diagram and name the stage of meiosis correctly



- a) Pachytene (crossing over)
- b) Zygotene
- c) Leptotene
- d) Diplotene

9. G₀-phase is

- a) Phase after G₂-phase
- b) Phase after M-phase, in which daughter cell enters new cell cycle
- c) Arrest of cell cycle on the onset of differentiation
- d) All of the above

10. During cell division, chromosome attaches with spindles

- a) Kinetochore
- b) Centrosome
- c) Centriole
- d) Secondary constriction

11. The spindle microtubules are polar, their orientation is

- a) Positive (+) and negative (-) both ends towards the equator
- b) Positive (+) ends towards the poles
- c) negative (-) ends towards the poles
- d) Positive (+) and negative (-) both ends towards the poles

12. The non-sister chromatids twist around and exchange segments with each other during

- a) Diplotene
- b) Diakinesis
- c) Leptotene
- d) Pachytene

13. Two basic stages of cell cycle are

- a) Interphase and M-phase/divisional phase
- b) Karyokinesis and cytokinesis
- c) Prophase, metaphase, anaphase and telophase
- d) G₁, S and G₂ phases

14. Which of the following statements are correct for G₁-phase?
- I. It is the last substage of interphase
 - II. Cell organelles do not increase in number
 - III. Both cell and nucleus grow in size
 - IV. It synthesizes RNAs, proteins and other biochemical for cell growth and subsequent replication of DNA
- Choose the correct option
- a) I and II b) II and IV c) I and III d) II and III
15. From the following identify the two correct statements with reference to meiosis
- I. Bead-like structures are absent on chromosomes.
 - II. Displacement of chiasmata occurs in diakinesis.
 - III. Separation of two basic sets of chromosomes.
 - IV. No division of centromere.
- a) II,III b) II,IV c) III,IV d) I,III
16. The S-phase of cell cycle is characterized by
- a) Duplication of chromosome
 - b) Shortening of chromosome
 - c) Duplication of DNA
 - d) Duplication of centriole
17. Congression is a phenomenon of
- a) Movement of sister chromatids towards the poles
 - b) Pairing of homologous chromosomes
 - c) Separation of paired chromosomes
 - d) Bringing the chromosomes on equator of spindle apparatus
18. Find the correctly matched pairs and choose the correct option
- I. Leptotene – The chromosomes become invisible
 - II. Zygotene – Pairing of homologous chromosomes
 - III. Pachytene – Dissolution of the synaptonemal complex takes place
 - IV. Diplotene – Bivalent chromosomes appear as tetrads
 - V. Diakinesis – Terminalisation of chiasmata takes place
- a) I and II b) II and IV c) II and V d) II and III
19. The number of DNA strands in chromosome at G₂-stage is
- a) One b) Two c) Four d) Eight
20. Meiosis occurs in which of the following cells?
- a) Sperm cells b) Unicellular organisms c) Liver cells d) All of these