

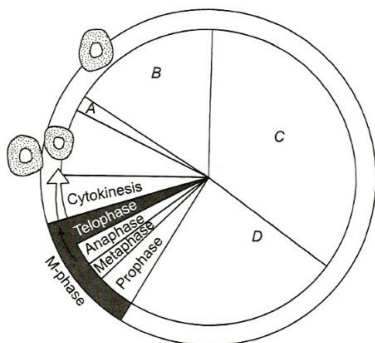
Class : XIth
Date :

Subject : BIOLOGY
DPP No. : 10

Topic :- Cell Cycle and Cell Division

- During meiotic division, the
 - Homologous chromosomes are separated
 - The linkage is disturbed
 - The homologous chromosomes do not segregate
 - All of the above
- Recombination is involved in the process of
 - Cytokinesis
 - Spindle formation
 - Crossing over
 - Chromosome duplication
- A diploid living organism develops from zygote by which type of the following repeated cell divisions?
 - Meiosis
 - Amitosis
 - Mitosis
 - Segmentation
- Pick out the correct statements.
 - Synapsis of homologous chromosomes takes place during prophase-I of meiosis.
 - Division of centromeres takes place during anaphase-I of meiosis.
 - Spindle fibres disappear completely in telophase of mitosis.
 - Nucleoli reappear at telophase-I of meiosis.
 - I only
 - III only
 - I and II only
 - I, III and IV only
- An egg cell has 5pico gram of DNA in its nucleus. How much amount of DNA will be, in this animal, at the end of G₂-phase of mitosis?
 - 2.5pico gram
 - 5pico gram
 - 5 g
 - 20pico gram
- The term 'meiosis' was given by
 - Rusk
 - Flemming
 - Johannsen
 - Former and Moore
- After the separation of centromeres during mitosis, the chromatids move towards opposite poles of the spindle. Name the term used for these chromatids
 - Daughter chromosomes
 - Kinetochores
 - Half spindles
 - Centrosomes

8. In which phase, proteins for spindle fibre are synthesized?
 a) G_1 -phase b) G_2 -phase c) S-phase d) Anaphase
9. In meiosis-I, a bivalent is an association of
 a) Four chromatids and four centromeres
 b) Two chromatids and two centromeres
 c) Two chromatids and one centromeres
 d) Four chromatids and two centromeres
10. Colchicine arrests spindle at
 a) Anaphase b) Prophase c) Telophase d) Metaphase
11. How many chromosomes will the cell the cell have at G_1 , after S and after M-phase respectively, if it has 14 chromosomes at interphase?
 a) 14,14,7 b) 14,14,14 c) 7,7,7 d) 7,14,14
12. Chiasmata are formed due to
 a) Crossing over of same part between homologous chromosomes
 b) Crossing over of same part between non-homologous chromosomes
 c) Duplication of homologous and non-homologous chromosomes
 d) Loss of some part of chromosomes
13. Which of the following shows diplotene stage of cell cycle?
 a) Separation of synapsed homologous chromosomes except at the site of cross overs
 b) Degeneration of nucleolus
 c) Chiasmata shift towards chromosome ends
 d) All of the above
14. Given diagram represents the events occurring in cell cycle. Identify *A, B, C* and *D* and select the correct option



- A B C D
 a) G_0 G_1 S G_2 b) G_1 G_0 S G_2 c) S G_0 G_1 G_2 d) G_1 S G_2 G_0

15. In the somatic cell cycle
- a) In G_1 -phase, DNA content is double the amount of DNA present in the original cell
 - b) DNA replication takes place in S-phase
 - c) A short interphase is followed by a long mitotic phase
 - d) G_2 -phase follows mitotic phase
16. Which phase comes in between the G_1 and G_2 phases of cell cycle?
- a) M-phase
 - b) G_0 -phase
 - c) S-phase
 - d) Interphase
17. Select the event of cell cycle which shows the importance of synapsis and the formation of chiasmata
- a) An increase in the variation of progeny occurs
 - b) The DNA on homologous chromosomes mix
 - c) Reciprocal exchange of chromosomal sections occurs
 - d) All of the above
18. Mitosis is a process by which eukaryotic cells
- a) Grow
 - b) Get specialized in structure
 - c) Multiply
 - d) Expose the genes
19. Phragmoplast is
- a) Proplated in cytoplasm of dividing cells
 - b) Cell plate formed by vesicles ER and dictyosomes during cytokinesis
 - c) Cell plate formed by ER, dictyosomes, secretory vesicles and spindle fibre
 - d) None of the above
20. Mitosis is characterized by
- a) Reduction division
 - b) Equal division
 - c) Both (a) and (b)
 - d) Absence of spindle formation