

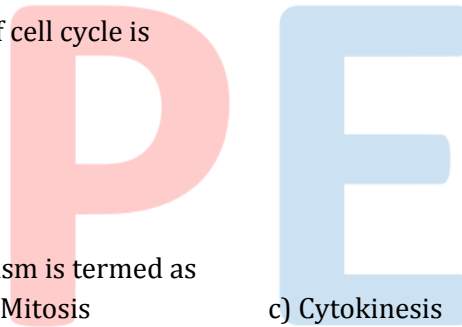
Class : XIth
Date :

Subject : BIOLOGY
DPP No. : 5

Topic :- Cell Cycle and Cell Division

- Select the correct sequence of a cell cycle
a) $G_2 \rightarrow M \rightarrow G_1 \rightarrow S$ b) $S \rightarrow G_2 \rightarrow M \rightarrow G_1$
c) $G_1 \rightarrow S \rightarrow G_2 \rightarrow M$ d) $M \rightarrow G_1 \rightarrow G_2 \rightarrow M$
- Which of the following statements are correct for meiosis?
I. Meiosis is a double division. It gives rise to four cells
II. The cells undergoing meiosis may be haploid or diploid
III. No bouquet stage is recorded
IV. Pairing or synapsis of homologous chromosomes takes place during zygotene of prophase-I and continues upto metaphase-I
Option containing correct statement is
a) I only b) I and IV c) II and III d) All of these
- Mature nerve cells are incapable of cell division. These cell are probably considered in
a) G_2 -phase b) S-phase c) Mitosis d) G_0 -phase
- Mitosis or the equational division is usually restricted to ...A... cells. However, in some lower plants and in some social insects ...B... cells also divide by mitosis.
Choose the correct option for A and B from the given options
A B
a) Haploid; diploid b) Haploid; haploid c) Diploid; diploid d) Diploid; haploid
- The spindles are formed of
a) Chromosome b) Actin c) Microtubules d) Myosin
- During mitosis, ER and nucleolus begin to disappear at
a) Late prophase b) Early metaphase c) Late metaphase d) Early prophase
- The plane of alignment of chromosome at the metaphase stage of cell cycle is referred to as the
a) Prophase plate b) Metaphase plate c) Anaphase plate d) Telophase plate

8. 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
- The correct option is
- a) II and III b) II and IV c) III and IV d) I and III
9. Consider the following statements about colchicine
- I. It is an alkaloid widely used in plant breeding for doubling the chromosome number
 - II. Colchicine induced polyploidy has been used in raising several varieties of horticulture and agricultural plants
- Which of the statements given above is/are correct?
- a) Only I b) Only II c) Both I and II d) None of these
10. Separation of linked genes is called
- a) Linkage b) Segregation c) Crossing over d) Genetic mutation
11. Sequence of four phases of cell cycle is
- a) $G_1 \rightarrow S \rightarrow G_2 \rightarrow M$
 - b) $G_1 \rightarrow G_2 \rightarrow S \rightarrow M$
 - c) $S \rightarrow G_1 \rightarrow G_2 \rightarrow M$
 - d) $M \rightarrow G_1 \rightarrow G_2 \rightarrow S$
12. The division of the cytoplasm is termed as
- a) Karyokinesis b) Mitosis c) Cytokinesis d) Meiosis
13. Cell would normally proceed to mitosis without interruption
- a) Once it had started the S-period
 - b) Once it had entered the G_2 -phase
 - c) At anytime during cell division
 - d) None of the above
14. The two chromatids of a metaphase chromosome represent
- a) Replicated chromosomes to be separated at anaphase
 - b) Homologous chromosomes of a diploid set
 - c) Non-homologous chromosomes joined at the centromere
 - d) Maternal and paternal chromosomes joined at the centromere
15. In the process of mitotic division during interphase, chromosome material remains in the form of very loosely coiled threads called
- a) Chromosome b) Chromatin c) Chromatid d) Microtubules



16. Which is synthesized in G_1 -phase?
a) DNA polymerase b) Histones c) Nucleolar DNA d) Tubulin protein
17. Which of the following occurs more than one and less than five in a chromosome?
a) Chromatid b) Chromomere c) Centromere d) Telomere
18. Longest phase of meiosis, is
a) Prophase-I b) Prophase-II c) Anaphase-I d) Metaphase-II
19. Mitotic stages are not observed in
a) *Cosmarium* b) *E. coli* c) *Saccharomyces* d) *Chlorella*
20. Crossing over is also an enzyme mediated process and the enzyme involved is called
a) Ligase b) Polymerase c) Recombinase d) Endonuclease

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