DPP
DAILY PRACTICE PROBLEMS

Class : XIth **Subject : BIOLOGY**
Date : **DPP No. : 6**

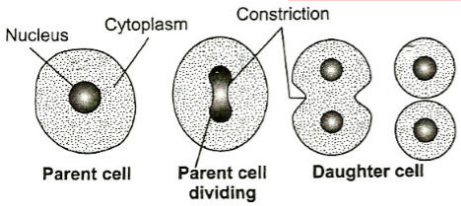
Topic :- Cell Cycle and Cell Division

1. Which one of the following stages corresponds to Mendel's law of independent assortment?
   a) Anaphase-II b) Anaphase-I c) Metaphase-I d) Telophase-I

2. Which stages of mitosis is known for occurrence of cytokinesis?
   a) Metaphase b) Telophase c) Anaphase d) None of these

3. Characteristic of meiosis is
   a) Two nuclear and two chromosome divisions
   b) Two nuclear and one chromosome division
   c) One nuclear and two chromosome divisions
   d) One nuclear and one chromosome division

4. See the diagram carefully and sequentially arrange the steps of amitosis given below?



   I. The constriction appears in the cytoplasm
   II. The nucleus of cell elongates and develops a constriction round its middle
   III. The constriction in nucleus gradually deepens and finally cuts the nucleus into two daughter nuclei
   IV. The cytoplasmic constriction divides the parent cell into two daughter cells, each with a nucleus
   Option containing correct sequence of events is
   a) I→III→II→IV b) I→II→III→IV c) II→I→III→IV d) II→III→I→IV

5. The number of mitotic cell divisions required to produce 256 cells from single cell would be
   a) 10 b) 12 c) 6 d) 8

6. The second check point in cell cycle occurs at
   a) $G_0 - G_1$ b) $G_1 - G_2$ c) $G_1 - S$ d) $G_2 - M$

7. The M-phase starts with the …A…, corresponding to the separation of daughter chromosomes, known as …B… and usually ends with division of cytoplasm which is known as …C…
Identify A-C to complete the given NCERT statement
a) A-cell division; B-cytokinesis; C-karyokinesis
b) A-nuclear division; B-karyokinesis; C-cytokinesis
c) A-cell division; B-karyokinesis; C-cytokinesis
d) A-nuclear division; B-cytokinesis; C-karyokinesis

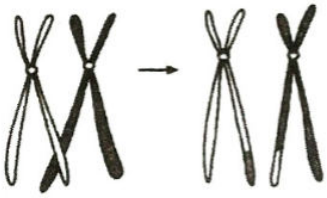
DNA replication in a cell cycle occurs during
a) G_1-phase b) S-phase c) G_2-phase d) M-phase

9. If the cell has 14 chromosomes at interphase. Than how many chromosomes will the cell have at G_1-phase of cell cycle?
a) 28 b) 14 c) 7 d) 21

10. When parental and maternal chromosomes change their material with each other in cell division, this event is called
a) Bivalent forming b) Crossing over c) Synapsis d) Dyad forming

11. Which of the following stage is responsible for the appearance of Lampbrush chromosomes?
a) Meiotic prophase b) Mitotic prophase c) Mitotic anaphase d) Mitotic metaphase

12. The given figure is the representation of a certain event at a particular stage of a type of cell division. Identify the stage and choose the correct option?



a) Prophase-I during meiosis
b) Prophase-II during meiosis
c) Prophase during meiosis
d) Both prophase and metaphase of mitosis

13. Chiasmata are most appropriately observed in meiosis during
a) Diakinesis b) Diplotene c) Metaphase-II d) Pachytene

14. In which of the following stages, the chromosome is single thin and like long thread?
a) Leptotene b) Zygotene c) Pachytene d) Diakinesis

15. From the following, identify the two correct statements with reference to meiosis
I. Bead like reference to meiosis
II. Displacement of chaismata occurs in diakinesic
III. Separation of two basic sets of chromosomes
IV. No division of centromere
The correct option is
a) II, III b) II, IV c) III, IV d) I, III

16. Which of the following stage of cell cycle is known as quiescent stage?
a) G_1-phase b) S-phase c) G_0-phase d) G_2-phase

17. At which stage of mitosis, chromatids separated and passes to different poles?
a) Prophase
b) Metaphase
c) Anaphase
d) Telophase

18. When dividing cells are examined under a light microscope, chromosomes become visible in
a) Interphase b) S-phase c) Prophase d) G_1-phase

19. Phenomenon of crossing over in diploid organisms is responsible for
a) Linkages between genes
b) Recombination between linked genes
c) Segregation between genes
d) Dominance of gene

20. In G_1-phase of cell cycle, what would be the change in DNA content of the cell?
a) DNA content increases to double b) DNA content gets reduced
c) Four fold increase of DNA content d) No change in DNA content