

Class : XIth
Date :

Subject : BIOLOGY
DPP No. : 7

Topic :- Cell Cycle and Cell Division

1. What is the approximate duration of cell cycle for a mammalian cell?
a) 90 min b) 24 hrs c) 24 days d) 12 hrs
2. Karyokinesis refers to the division of
a) The cytoplasm b) The nucleus
c) Cytoplasm and nucleus d) all constituents of the cell
3. Which of the following statements are correct for cell cycle?
I. Cell cycle is the sequence of events involving growth and division of a cell from the time of its formation to its own division into daughter cells
II. Cell growth (in terms of cytoplasmic increase) is a continuous process
III. DNA synthesis occurs only during one specific stage in the cell cycle
IV. The replicated chromosomes (DNA) are distributed to daughter nuclei during cell division
a) I and III b) I and II c) III and IV d) I, II, III and IV
4. Which of the following statement is true for cells in G_0 stage of cell cycle?
a) Cells in G_0 stage are metabolically more active
b) Cells are metabolically inactive
c) Cells are metabolically active but no longer proliferate in normal condition
d) None of the above
5. In which stage of the first meiotic division, two sister chromatids are formed?
a) Leptotene b) Zygotene c) Pachytene d) Diplotene
6. Synapsis occurs in phase of meiosis.
a) Zygotene
b) Diplotene
c) Pachytene
d) Leptotene
7. Mitosis usually results in the
a) Production of diploid daughter cells b) Growth of multicellular organisms
c) Cell repair d) All of the above

8. Which of the following type of cell cycle is known as equational division?
 a) Amitosis b) Mitosis c) Meiosis d) None of the above
9. The complete disintegration of nuclear envelope in a cell cycle marks the
 a) Start of prophase of mitosis b) Start of metaphase of mitosis
 c) End of anaphase of mitosis d) Start of telophase of mitosis
10. Chromosomes are arranged along the equator during
 a) Prophase b) Metaphase c) Anaphase d) Telophase
11. What is the average duration for mitosis?
 a) 3 min 30 min b) 3 hr to 5 hr c) 30 min to 3 hr d) 2 hr to 3 hr
12. Which of the following stage of mitosis follows the S and G₂-phases of interphases?
 a) Prophase b) Metaphase c) Anaphase d) Telophase
13. I. Phases of cell cycle are controlled by proteins, ...A... and ...B...
 II. There are two regulatory mechanisms, called ...C... which take decision about cell division.
 III. The second check point, called ...D... is responsible for transition from G₂ to M-phase.
 Identify A-D to complete the given statements (I-III)
 a) A-cyclins; B-CdKs; C-check points; D-mitotic b) A-cyclins; B-check points; C-mitotic cyclin, D-cyclin (Cm)
 c) A-mitotic cyclin (Cm), B-CdKs; C-check d) A-mitotic cyclin (Cm), B-cyclins; C-check points, D-CdKs
14. When synapsis is complete all along the chromosome, the cell is said to have entered a stage called
 a) Zygotene b) Pachytene c) Diplotene d) Diakinesis
15. 'XX' is a phase of mitosis, in which the chromatin condenses into discrete chromosomes. During 'XX' phase, nuclear envelope breaks down and spindles forms at opposite ends of the cell
 Identify 'XX'
 a) Interphase b) Anaphase c) Telophase d) Prophase
16. Which of the following CdKs and cyclins comes under G₂ check point?
 a) CdK₄/ Cyclin B b) CdK₂/ Cyclin B c) CdK₆/ Cyclin B d) CdK₂/ Cyclin D
17. Mitosis is divided into
 a) Five stages b) Three stages c) Four stages d) Six stages

18. Which of the following statements (events) is/are true for mitotic telophase?
- a) Nucleolus, GB and ER form
 - b) NM assembles around each chromosomes clusters
 - c) Arrival of chromosomes cluster at opposite poles and loss of their identity as discrete elements
 - d) All of the above
19. Identify A-C in the given statements, and choose the correct option
- I. Spindle microtubules that extend from the two poles of a dividing cell are called ...A...
 - II. A centromere connects two identical copies of a single chromosomes. These two copies are called ...B...
 - III. In 'X' phase, the paired chromosomes separate and begin moving to opposite ends of the cell. This 'X' is called ...C...
- a) A-kinetochore fibres; B-chromatids; C-metaphase
 - b) A-polar fibres; B-homologous chromosomes; C-Prophase
 - c) A-polar fibres; B-sister chromatids; C-anaphase
 - d) A-kinetochore fibres; B-asters; C-anaphase
20. Among the following, which one is longest phase in prophase of meiosis?
- a) Leptotene
 - b) Zygotene
 - c) Pachytene
 - d) Diplotene

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