

DPP

DAILY PRACTICE PROBLEMS

Class : XIth
Date :

Subject : BIOLOGY
DPP No. :1

Topic :- Cell Cycle and Cell Division

- The second meiotic division leads to
 - Separation of sex chromosomes
 - Fresh DNA synthesis
 - Separation of chromatids and centromere
 - Separation of homologous chromosomes
- In meiosis, chromosome number becomes
 - Half of its parent chromosome
 - Same as that of parent chromosome
 - One fourth of its parent chromosome
 - None of the above
- Consider the following statements about plant cytokinesis
 - It usually occurs by cell plate method
 - The spindle usually persists during cytokinesis
 - Cell plate grows centrifugally
 Which of the statements given above are correct?
 - I and II
 - I and III
 - II and III
 - I, II and III
- ...A... phase corresponds to the interval between mitosis and initiation of DNA replication
 - In animal cells, during the ...B... phase, DNA replication begins in the nucleus and the centriole duplicates in the cytoplasm
 - During the ...C... phase, proteins are synthesized for the preparation of mitosis, while cell growth continues
 Identify the blanks (A-C) to complete the given statements (I-III) with reference to NCERT textbook
 - A-G₂, B-S, C-G₁
 - A-S, B-G₂, C-G₁
 - A-S, B-G₁, C-G₂
 - A-G₁, B-S, C-G₂
- Select the matched ones.

| | | |
|--------------------------|---|--------------------------------|
| I. S-phase | - | DNA replication |
| II. Zygotene | - | Synapsis |
| III. Diplotene | - | Crossing over |
| IV. Meiosis | - | Both haploid and diploid cells |
| V. G ₂ -phase | - | Quiescent stage |

 - I and II only
 - III and IV only
 - III and V only
 - I, III and V only
- Which type of cell division helps in regeneration of cells?
 - Mitosis
 - Amitosis
 - Meiosis
 - Karyokinesis
- Which of the following statement(s) is/are not correct about meiosis?
 - Meiosis involves pairing of homologous chromosomes and recombination between them
 - Two diploid cells are formed at the end of meiosis-II
 - Meiosis involves two sequential cycles of nuclear and cell division called meiosis-I and meiosis-II, but only a single cycle of DNA replication
 - Meiosis-I is initiated after the parental chromosome replication which produce identical sister

chromatids at the S-phase

The correct option is

- a) I and III b) II only c) II and III d) I, II, III and IV

8. Choose the correct statements regarding cell cycle

I. Interphase is called the resting phase

II. Interphase is the time during which the cell is preparing for division

III. The interphase is divided into phases, *i. e.*, G_1 , S and G_2 -phase

IV. Interphase represents the phase between the two successive M-phases

The option with correct statements is

- a) I and IV b) II and III c) I and III d) I, II, III and IV

9. Crossing over occurs during

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

10. During meiosis, the alleles of the parental pair separate or segregated from each other. How many allele(s) is/are then transmitted to a gamete?

- a) Four b) Two c) Six d) One

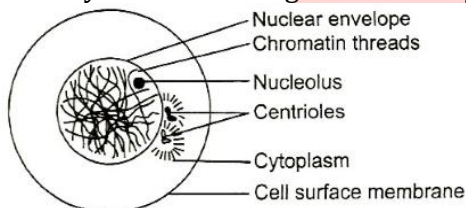
11. The phragmoplast is organized at the

- a) Beginning of anaphase
b) End of anaphase
c) Beginning of telophase
d) End of telophase

12. The morphology of chromosomes can be studied most easily in

- a) Prophase b) Metaphase c) Anaphase d) Telophase

13. Identify the correct stage of mitosis by viewing the diagram carefully?



- a) Interphase b) Prophase c) Metaphase d) Anaphase

14. The number of chromosomes becomes half in

- a) Anaphase-I b) Anaphase-II c) Telpohase-I d) Telophase-II

15. In which of the following phase of cell cycle, mitotic division got arrested?

- a) G_2 -phase b) G_0 -phase c) S-phase d) M-phase

16. Which of the following phase of cell cycle is also known as the resting phase?

- a) G_1 -phase b) M-phase c) S-phase d) Interphase

17. Differentiated cell remains at which stage?

- a) G_1 b) G_2 c) G_0 d) M

18. The process of cytokinesis refers to the division of

- a) Nucleus b) Chromosomes c) Cytoplasm d) None of these

19. Choose the correct combination of options to select the correct statement for prophase

I. Chromosomal material condenses to form compact mitotic chromosomes

- II. The assembly of mitotic spindle is initiated by the microtubules
III. Cells do not show organelles when viewed under the prophase
IV. The nucleolus or nucleoli degenerate completely
- a) I only b) II and III c) I and II d) All of these
20. Which of the following event distinguishes prophase-I of meiosis from prophase of mitosis?
- a) Nuclear membrane breaks down b) Chromosomes become visible
c) Homologous chromosomes pair up d) Spindle forms



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