



BIOLOGY

BOOKS - BAL BHARTI

CELL DIVISION

Do Yourself

1. Write down the explanation of prophase-1 in your own words.



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Exercise Choose Correct Option

1. The connecting link between Meiosis-I and Meiosis-II is..... .

- A. interphase-I
- B. interphase-II
- C. interkinesis
- D. anaphase-I

Answer:



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2. Synapsis is pairing of..... .

- A. any two chromosomes
- B. non-homologous chromosomes
- C. sister chromatids
- D. homologous chromosomes

Answer:



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3. Spindle apparatus is formed during which stage of mitosis?

- A. Prophase
- B. Metaphase
- C. Anaphase
- D. Telophase

Answer:



4. Chromosome number of a cell is almost doubled up during..... .

A. G_1 -phase

B. S-phase

C. G_2 - phase

D. G_0 - phase

Answer:



5. How many meiotic divisions are necessary for formation of 80 sperms?

A. 80

B. 40

C. 20

D. 10

Answer:



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6. How many chromatids are present in anaphase-I of meiosis-I of a diploid cell having 20 chromosomes?

A. 4

B. 6

C. 20

D. 40

Answer:



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7. In which of the following phase of mitosis chromosomes are arranged at equatorial plane?

A. Prophase

B. Metaphase

C. Anaphase

D. Telophase

Answer:



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8. Find incorrect statement.

A. Condensation of chromatin material occurs in prophase.

B. Daughter chromatids are formed in anaphase.

C. Daughter nuclei are formed at metaphase

D. Nuclear membrane reappears in telophase.

Answer:



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9. Histone proteins are synthesized during..... .

A. G_1 -phase

B. S-phase

C. G_2 - phase

D. Interphase

Answer:



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Exercise

1. While observing a slide, student observed many cells with nuclei. But some of the nuclei were bigger as compared to others but their nuclear membrane was not so clear. Teacher inferred it as one of the phase in the cell

division. Which phase may be inferred by teacher?



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2. Students prepared a slide of onion root tip. There were many cells seen under microscope. There was a cell with two groups of chromosomes moving towards opposite ends of the cell. This cell is in which phase of mitosis?



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3. Some Mendelian crossing experimental results were shown to the students. Teacher informed that there are two genes located on the same chromosome. He inquired if they will be ever separated from each other?



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4. Students were observing, a film on Paramecium. But underwent a process of reproduction. Teacher said it's due to cell

division. But Students objected and said that there was no disappearance of nuclear membrane and no spindle formation, how can it be cell division?-"Can you clarify?



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5. Is the meiosis responsible for evolution?
Justify your answer.



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6. Why mitosis and meiosis-II are called as homotypic division?



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7. Write the significance of Mitosis.



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8. Enlist the different stages of prophase-I.



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9. With the help of suitable diagram, describe the cell cycle.



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10. Distinguish between Mitosis and Meiosis.



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11. Draw the diagram of metaphase.



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12. Match the following column-A with column-

B

Column-A
(phases)

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

Column-B
(Their events)

- 1. Crossing over
- 2. Desynapsis
- 3. Synapsis
- 4. Bouquet stage



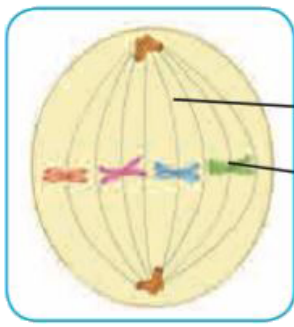
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13. If an onion has 16 chromosomes in its leaf cell, how many chromosomes will be there in its root cell and pollen grains.



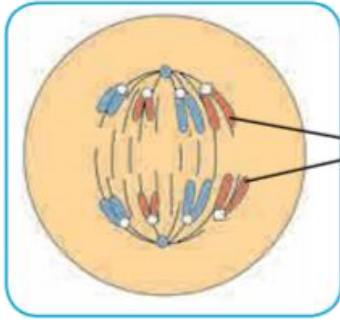
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14. Identify the following phases of mitosis and label the 'A' and 'B' given in diagrams



Spindle fibres

A



B



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