BIOLOGY

BOOKS - MAXIMUM PUBLICATION

Cell Cycle and Cell Division

Exercise

1. Meiosis results in

A. Production of gametes

B. Reduction in the number of chromosomes

C. Introduction of variation

D. all of the above

Answer: D

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2. At which stage of meiosis does the genetic constitution of gametes is finally decided

A. Metaphase I

B. Anaphase II

C. Metaphase II

D. Anaphase I

Answer: D

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3. Meiosis occurs in organisms during

A. Sexual reproduction

B. Vegetative reproduction

C. Both sexual and vegetative reproduction

D. None of the above

Answer: A

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4. During anaphase-I of meiosis

A. Homologous chromosomes separate

B. Non-homologous autosomes separate

C. Sister chromatids separate

D. Non-sister chromatids separate

Answer: A

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5. Mitosis is charecterised by

A. Reduction division

B. Equal division

C. Both reduction and equal division

D. None of the above

Answer: B

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6. A bivalent of meiosis-I consists of

A. Two chromatids and one centromere

B. Two chromatids and two centromere

C. Four chromatids and two centromere

D. Four chromatids and four centromere

Answer: C

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7. Cells whichare not dividing are likely to be at

A. G_1

B. G_2

C. G_0

D. S phase

Answer: C

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8. It is the inactive stage of cell division but cell differentiation occurs. Name it.

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9. Identify the stages of mitosis in which the following events take place : Synapsis

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10. Identify the substages of meiosis in which crossing over is occuring.

A. Leptotene

B. Zygotene

C. Pachytene

D. Diplotene

Answer: C

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11. Cleavage is a unique form of miotic cell division in which

A. there is no growth of cells

B. the nucleus does not participate

C. no spindle develops to guide the cells

D. the plasma membranes of daughter cells do not separate

Answer: A

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12. In animal cells , cytokinesis involves

A. the separation of sister chromatids

B. contraction of the contractile ring of microfilament

C. depolymerisation of kinetochore microtubuies

D. a protein kinase that phosphorylates other enzymes

Answer: B

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13. During mitosis , number of chromosomes gets

A. change

B. no change

C. may be change if cell is mature

D. may be change if cell is immature

Answer: B

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14. A diploid living organism develpos from zygote by which type of the following repeated cell divisions ?

A. Meiosis

B. Amitosis

C. Framentation

D. Mitosis

Answer: D

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15. If you are provided with root-tips of onion in your class and are asked to count the chromosomes, which of the following stages can you most conveniently look into?

A. Metaphase

B. Telophase

C. Anaphase

D. Prophase

Answer: A

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16. At which stage of mitosis , chromatids separated and passes to different poles

A. Prophase

B. Metaphase

C. Anaphase

D. Telophase

Answer: C

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17. 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 chromosomoes joined at the centromere

D. maternal and paternal chromosomes joined at the centromere

Answer: A

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18. The process of cytokinesis refers to the division of

A. nucleus

B. chromosomes

C. cytoplasm

D. nucleus and cytoplasm

Answer: C

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19. Which of the following serves as mitotic spindle poison ?

A. Ca_2

B. azide

C. Tubulin

D. Colchicine

Answer: D

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20. Pairing of homologous chromosomes occurs at which stage ?

A. Zygotene

B. Leptotene

C. Metaphase

D. Pachytene

Answer: A

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21. In meiosis , division is

A. I reductional and II equational

B. I equational and II reductional

C. Both reductional

D. Both equational

Answer: A

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22. Which type of chromosomes segregate when a cell undergoes meiosis ?

A. Homologous chromosomes

B. Non-homologous chromosomoes

C. Both (A) and (B)

D. Centric and acentric chromosomoes

Answer: A

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23. Chiasmata are most appropriately observed in meiosis during

A. diakinesis

B. diplotene

C. metaphase-II

D. pachytene

Answer: B

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24. During cell division , sometimes there will be failure of separation of homologous chromosomes. This event is called

A. Interference

B. Complementation

C. Non-disjunction

D. Coincidence

Answer: C

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25. The second meiotic division leads to

A. Separation of sex chromosomes

B. Fresh DNA synthesis

C. Separation of chromatids and centromere

D. Separation of homologous chromosomes

Answer: C

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26. Term meiosis was proposed by

A. Farmer and Moore

B. Flemming

C. Strasburger

D. Darlington

Answer: A

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27. Synapsis occurs in the phase of meiosis.

A. Zygotene

B. Diplotene

C. Pachytene

D. Leptotene

Answer: A

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28. When number of chromosomes is already reduced to half in the first reductional division of meiosis, where is the necessity of second meiotic division

A. The division is required for the formation of four gametes

B. Division ensures equal distribution of haploid chromosomes

C. Division ensures equal distribution of genes on chromosomes

D. Division is required for segregation of replicated chromosomes

Answer: D

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