



BIOLOGY

BOOKS - MBD BIOLOGY (ODIA ENGLISH)

Cell cycle and division

Question Bank

1. In meiosis the chromosomes first start pairing during:

A. Interphase

B. Prophase-1

C. Metaphase-II

D. Metaphase-1

Answer: B



Watch Video Solution

2. The drug colchicine has inhibitory effect on cell cycle in which of the following stages ?

A. G_1

B. G_2

C. S

D. M

Answer: D



Watch Video Solution

3. Crossing over takes place in:

A. Diplotene

B. Diakinesis

C. Pachytene

D. None of these

Answer: C



Watch Video Solution

4. The significance of mitosis cell division is:

A. Daughter cells have quantitatively same chromosomes as parent

B. To produce same chromosomes

qualitatively.

C. Both (a) and (b)

D. None of these

Answer: C



View Text Solution

5. The longest phase in meiotic division is:

A. Prophase-1

B. Metaphase-1

C. Anaphase-1

D. Telophase-1

Answer: A



Watch Video Solution

6. Spindle fibres are chemically formed of:

A. Actin

B. Myosin

C. Collagen

D. Tubulin

Answer: D



View Text Solution

7. Meiosis is also known as:

A. Equational division

B. Reductional division

C. Direct cell division

D. All of these

Answer: B



View Text Solution

8. Synaptonemal complex is associated with:

A. Polytene chromosome

B. Lampbrush chromosome

C. Paired meiotic chromosomes

D. Mitotic chromosome

Answer: C



Watch Video Solution

9. In cell cycle, the different phases are in which order:

A. $S - G_1 - G_2 - M$

B. $G_1 - S - G_2 - M$

C. $S - G_2 - G_1 - M$

D. $M - S - G_1 - G_2$

Answer: B



Watch Video Solution

10. Genetic recombination during meiosis takes place at:

A. Zygotene

B. Diplotene

C. Pachytene

D. Metaphase

Answer: C



Watch Video Solution

11. During the G1 phase of cell division

- A. RNA and protein are synthesized
- B. DNA and protein are synthesized
- C. Cell prepared for M phase
- D. Cell undergoes duplication

Answer: A



Watch Video Solution

12. The major event that occurs during the anaphase of mitosis which brings about the equal distribution of chromosomes is:

A. Replication of genetic material

B. Alignment of chromosomes at the equator

C. Splitting of centromeres

D. Condensation of chromatin

Answer: C



Watch Video Solution

13. During which of the following phase of growth cell increases in volume ?

- A. Cell division
- B. Maturation
- C. Exponential
- D. Enlargement

Answer: D



Watch Video Solution

14. The DNA content is doubled' during the_____ stage of cell division?

A. Prohase

B. Metaphase

C. Telophase

D. Interphase

Answer: D



Watch Video Solution

15. A cell plate is laid down during:

- A. Cytokinesis
- B. Karyokinesis
- C. Interphase
- D. None of these

Answer: A



[Watch Video Solution](#)

16. Mitotic spindle have main protein:

A. Tubulin

B. Myosin

C. Tropomyosin

D. Dynein

Answer: A



[Watch Video Solution](#)

17. Differentiated cell arrests at which stage:

A. G_1

B. G_2

C. G_0

D. M phase

Answer: C



Watch Video Solution

18. The number of mitotic cell division required to produce 256 cells from single cell would be:

A. 10

B. 12

C. 6

D. 8

Answer: D



Watch Video Solution

19. DNA replicates during:

A. prophase

B. S phase

C. G1 phase

D. G2 phase

Answer: B



Watch Video Solution

20. In meiosis synapsis occurs during:

A. interphase

B. prophase

C. S-phase

D. Leptotene

Answer: B



Watch Video Solution

21. In certain cell, genetic recombination can occur during

A. Meiosis

B. Amitosis

C. Mitosis

D. Both(a) and (c)

Answer: A



Watch Video Solution

22. In meiosis the chromosomes replicate during:

A. Prophase

B. Metaphase

C. Anaphase

D. Interphase

Answer: D



Watch Video Solution

23. There is no division of cytoplasm after mitosis then the condition will be:

- A. One cell one nuclei
- B. one cell with two nuclei
- C. only one cell
- D. one cell without nucleus

Answer: B



Watch Video Solution

24. Identify the substage of prophase-1 of meiosis during which synapsis takes place

A. Diplotene

B. Zygotene

C. Leptotene

D. Pachytene

Answer: B



Watch Video Solution

25. Chromosomes replicate in which stage of meiosis?

A. Prophase-1

B. Propahse-ii

C. Telophase-i

D. Interphase

Answer: D



Watch Video Solution

26. Which of the following is ideal for studying meiosis?

A. Gamete

B. Pollen

C. Microsporangium

D. Root

Answer: B



Watch Video Solution

27. Which structure is a network of protein cables?

A. Spindle

B. Kinetochore

C. Chromosome

D. Plasma membrane

Answer: A



Watch Video Solution

28. Synapsis occurs between:

A. m-RNA and ribosomes

B. Spindle fibres and centromere

C. Two homologous chromosomes

D. A male and a female gamete

Answer: C



Watch Video Solution

29. In which phase of meiosis homologous chromosomes separate?

A. Metaphase-I

B. Metaphase-ii

C. Anaphase-i

D. Anaphase-ii

Answer: C



Watch Video Solution

30. The shape of chromosomes is clearly visible at:

A. prophase

B. Anaphase

C. Metaphase

D. Telophase

Answer: B



Watch Video Solution

31. G_1, G_2 AND S Phases are seen in which phase of cycle cell?

A. Metaphase

B. prophase

C. Anaphase

D. Interphase

Answer: D



Watch Video Solution

32. Cell in G_0 Phase of cycle cell

A. Exit cell cycle

B. Enter cycle cell

C. Suspend cell cycle

D. Terminate cell cycle

Answer: C



Watch Video Solution

33. Which of the following events takes place during diplotene stage of prophase-I of meiosis?

A. Compaction of chromosomes

B. formation of synaptonemal complexes

C. Formation of recombinational nodules

D. Dissolution of synaptonemal complexes

Answer: D



Watch Video Solution

34. Crossing over may result in:

A. Addition of genetic material

B. Deletion of genetic material

C. Exchange of genetic material

D. All of the above

Answer: C



Watch Video Solution

35. During which stage of meiosis, synaptonemal complex is formed?

A. Pachytene

B. Diplotene

C. Diakinesis

D. Zygotene

Answer: D



Watch Video Solution

36. Which phase comes in between the G_1 and G_2 phase of cell cycle?

A. M-phase

B. G_0 -phase

C. S-phase

D. Interphase

Answer: C



Watch Video Solution

37. How many equational division are necessary in a cell of onion root tip to form 128 cell

A. 64

B. 128

C. 7

D. 127

Answer: C



Watch Video Solution

38. At metaphase chromosomes are attached to the spindle fibres by their:

A. Satellites

B. Secondary constriction

C. Kinetochores

D. Centromeres

Answer: C



Watch Video Solution

39. The stage between two meiotic divisions is called:

A. Interphase

B. Cytokinesis

C. Interkinesis

D. Karyokinesis

Answer: C



Watch Video Solution

40. Select the correct match.

(A) S phase-DNA replication

(B) Zygotene-Synapsis

(C) Diplotene-Crossing over

(D) Meiosis-Both haploid and diploid cells

A. A and B

B. C AND D

C. C and E

D. A , C and D

Answer: A



Watch Video Solution

41. The longest phase in meiotic division is:

A. Prophase-I

B. Prophase-II

C. Anaphase-I

D. Metaphase-II

Answer: A



Watch Video Solution

42. Spindles are arrested by colchicine at:

A. Anaphase

B. Metaphase

C. Telophase

D. Prophase

Answer: B



Watch Video Solution

43. The formation of chromatid takes place in,

A. G_1 Phase

B. G_2 phase

C. S phase

D. M phase

Answer: C



Watch Video Solution

44. Mitotic spindle have main protein:

A. Humulin

B. Intermediate filament

C. Flagellin

D. Tubulin

Answer: D



Watch Video Solution

45. During which phase protein for spindle fibre are synthesized?

A. G_1 Phase

B. G_2 phase

C. metaphase

D. Anaphase

Answer: B



Watch Video Solution

46. The longest phase in meiotic division is:

- A. Prophase-I
- B. Prophase-II
- C. Metaphase-II
- D. Anaphase-II

Answer: A



Watch Video Solution

47. In cell cycle, the different phases are in which order:

A. $G_1 - G_2 - S - M$

B. $S - M - G_1 - G_2$

C. $G_1 - S - G_2 - M$

D. $M - S - G_1 - G_2$

Answer: C



Watch Video Solution

48. During_____ phase of cell cycle RNA and proteins are synthesized.

A. RNA and protein are synthesized

B. DNA and protein are synthesized

C. Cell prepares for M phase

D. Cell undergoes duplication

Answer: A



Watch Video Solution

49. The drug colchicine has inhibitory effect on cell cycle during:

- A. Interphase
- B. Prophase-I
- C. Metaphase-II
- D. Metaphase-I

Answer: B



Watch Video Solution

50. Synaptonemal complex is associated with:

A. Bivalents

B. Mitotic chromosomes

C. Complex Chromosome Rearrangement

D. Nucleosome

Answer: A



Watch Video Solution

51. Mitotic spindle have main protein:

A. Actin

B. Myosin

C. Collagen

D. Tubulin

Answer: D



Watch Video Solution

52. Which is not true for anaphase ?

- A. Chromosomes split and chromatids separate
- B. Chromosomes move to opposite poles
- C. Golgi body and ER are formed
- D. Spindle poles move further apart

Answer: C



Watch Video Solution

53. Crossing over takes place in:

A. Zygotene

B. Pachytene

C. Diplotene

D. Diakinesis

Answer: B



Watch Video Solution

54. Two molecules of DNA per chromosome are
are

A. G_0 Phase

B. G_1 Phase

C. G_2 Phase

D. Anaphase

Answer: C



Watch Video Solution

55. Anaphase separation during mitosis is:

A. Qualitative

B. Quantitative

C. Both(a) and (b)

D. None of these

Answer: C



Watch Video Solution

56. Which event is not associated with prophase-I

A. Synizesis

B. Synapsis

C. Segregation

D. Terminalization

Answer: C



View Text Solution

57. Anaphase-II separation is:

A. Equational

B. Reductional

C. Both(a) and (b)

D. None of these

Answer: A



Watch Video Solution

58. How many equational division are necessary in a cell of onion root tip to form 128 cell

A. 7

B. 14

C. 16

D. 32

Answer: A



Watch Video Solution

59. How many meiotic divisions should take place to produce 100 pollen grains?

A. 200

B. 100

C. 50

D. 25

Answer: D



Watch Video Solution

60. Crossing over occurs between:

A. Sister chromatids of a bivalent

B. Non-sister chromatids-of a bivalent

C. Two different bivalents

D. Two non-homologous chromosomes

Answer: B



View Text Solution

61. Maturation promoting factor is a:

A. Cyclin- Cdk complex

B. Protein kinase

C. Adenylate cyclase

D. None of these

Answer: C



Watch Video Solution

62. Completion of DNA replication is screened by:

A. Restriction point

B. G_1 check point

C. G_2 check point

D. M check point

Answer: C



Watch Video Solution

63. Four daughters cells formed by meiosis are:

- A. Genetically similar
- B. Genetically dissimilar
- C. Similar to mother cell

D. None of these

Answer: B



Watch Video Solution

64. Meiosis involves ___ nuclear division but __ chromosomal division.

A. One,one

B. One,two

C. two, one

D. two, two

Answer: C



Watch Video Solution

65. The longest phase of mitosis is ____



Watch Video Solution

66. In meiosis haploid condition is reached during ____ stage.



[Watch Video Solution](#)

67. The second division of meiosis may be described as _____ division.



[Watch Video Solution](#)

68. The region of attachment of chromosomes to spindle fibres is called _____



[Watch Video Solution](#)

69. The spindle formed in the dividing plant cell is ___



[Watch Video Solution](#)

70. Cell plate is formed of smaller units called _____



[Watch Video Solution](#)

71. _____ is the direct cell division.





[Watch Video Solution](#)

72. During_____ phase of cell cycle RNA and proteins are synthesized.



[Watch Video Solution](#)

73. The events of telophase are reverse to that of_____



[Watch Video Solution](#)

74. The amount of DNA per cell reduces to n during _____ stage.



[Watch Video Solution](#)

75. In the cell cycle mitochondria and chloroplasts divide during _____



[Watch Video Solution](#)

76. _____ is the quiescent stage in Cell cycle.



[Watch Video Solution](#)

77. A cytoplasmic factor responsible for crossing major transition in cell cycle is ____



[View Text Solution](#)

78. Failure of separation of homologues is called ____



[Watch Video Solution](#)

79. The vesicular structure associated with the event of crossing over is called _____



[Watch Video Solution](#)

80. The cell in which meiosis occurs.



[Watch Video Solution](#)

81. Separation of homologous chromosomes.



[Watch Video Solution](#)

82. Pairing of homologous chromosomes



Watch Video Solution

83. A pair of homologous chromosomes



Watch Video Solution

84. Gradual shifting of chiasmata towards ends of bivalent



[Watch Video Solution](#)

85. Disc-like structure formed on centromere for attachment of spindle fibres



[Watch Video Solution](#)

86. Division of nucleus.



[Watch Video Solution](#)

87. Division of cytoplasm.



Watch Video Solution

88. A short resting stage between meiosis I and meiosis II.



Watch Video Solution

89. Point of crossing over.



Watch Video Solution

90. What are different phases of cell cycle ?



Watch Video Solution

91. Some cells divide only occasionally as and when required. These are said to be remained in a quiescent stage called.



Watch Video Solution

92. The major control point in animal cell cycle is.



Watch Video Solution

93. The major control point in animal cell cycle is.



Watch Video Solution

94. Which is the cytoplasmic factor that is responsible for the cell to enter from G_2 phase M phase?



Watch Video Solution

95. Chemically, spindle fibre is.



Watch Video Solution

96. In which cells mitosis is anastral ?



[Watch Video Solution](#)

97. What are the different types of Spindle fibres ?



[Watch Video Solution](#)

98. Cytokinesis in plant cells is by



[Watch Video Solution](#)

99. Cytokinesis in animal cells is by.



Watch Video Solution

100. Who coined the term meiosis ?



Watch Video Solution

101. Which stage is called bouquet stage ?



Watch Video Solution

102. What are the two types of synapsis ?



Watch Video Solution

103. Which structure is responsible for coordinated action of enzymes and factors for crossing over?



Watch Video Solution

104. The amount of DNA per cell reduces to n during_____ stage.



Watch Video Solution

105. Write short note on Cell cycle



Watch Video Solution

106. Write short note on Pachytene



Watch Video Solution

107. Write short note on Synaptonemal complex



Watch Video Solution

108. Write short note on G_0 phase



Watch Video Solution

109. Write short note on meiosis



[Watch Video Solution](#)

110. Write short note on Leptotene



[Watch Video Solution](#)

111. Write short note on Zygotene



[Watch Video Solution](#)

112. Write short note on Diplotene



[Watch Video Solution](#)

113. Write short note on Significance of meiosis



[Watch Video Solution](#)

114. Distinguish between Mitosis and meiosis



[Watch Video Solution](#)

115. Distinguish between Mitotic metaphase and Metaphase-I



Watch Video Solution

116. Distinguish between karyokinesis and cytokinesis



Watch Video Solution

117. Give an account of mitosis?



Watch Video Solution