BIOLOGY

BOOKS - CENGAGE BIOLOGY (HINGLISH)

CELL CYCLE AND CELL DIVISION

Exercises Chose The Correct Option

1. The cell cycle of a somatic cell usually consist of the following except

A. The first part of interphase is called as G_1 phase. During this phase, there is ,maximum increase in cell size and there is active synthesis of RNA and proteins.

B. In Synthetic phase (S-phase), DNA molecule of each chromosomes replicates by the synthesis of new DNA molecule.

C. During G_2-phase, a cell contains double the amount (4n) of DNA present in the original diploid cell (2n).

D. The cell cycle consists of a short interphase and long M-phase.

Answer: D

Watch Video Solution

2. Which of the following is the most important point in the regulation of cell cycle during which it must decide whether the cell will start a new cycle or will become arrested in G_0-phase ?

A. S-phase

B. G_1-phase

C. G_2-phase

D. interphase

Answer: B

Watch Video Solution

3. Histone protein synthesis occurs during

A. G_1-phase

B. G_2-phase

C. S-phase

D. Prophase

Answer: C

Watch Video Solution

4. The correct sequence of phases of cell cycle is :

A. S,M,G_1 and G_2

B. G_1, G_2,S and M

C. M,G_1,G_(2)` and S

D. G_1, SG_2 and M

Answer: D

Watch Video Solution

5. During cell cycle, DNA replicates

A. Once

B. Twice

C. Many times

D. Not at all

Answer: A

Watch Video Solution

6. The synthesis of spindle proteins called as tubulin occurs during

A. G_1-phase

B. S-phase

C. G_2-phase

D. M-phase

Answer: C

Watch Video Solution

7. If mitotic division is restricted in G_1 phase of cell, the condition is known as

A. G_2-phase

B. S-phase

C. G_0-phase

D. M-phase

Answer: C

Watch Video Solution

8. Condensation of chromosome with visible centromere occurs during

A. G_1-phase

B. S-phase

C. G_2-phase

D. M-phase

Answer: D

Watch Video Solution

9. The stage of cell cycle when cell decides to undergone differentiation is

A. G_0

B. G_1

C. G_2

D. S

Answer: A

Watch Video Solution

10. Phase of cell cycle when DNA polymerase is active

A. G_1

B. S

C. G_2

D. M

Answer: B

Watch Video Solution

11. G_0 state of cell denotes

A. Exit of cell denotes

B. Check point before entering the next phase

C. Death of cell

D. Temporary pause

Answer: A

Watch Video Solution

12. During cell cycle, two molecules of DNA are present in chromosome during

A. G_1-phase

B. Beginning of S-phase

C. G_2-phase

D. End of M-phase

Answer: C

Watch Video Solution

13. Antephase is the phase in which ATP is synthesised during cell division.It refers to

A. G_0-phase

B. G_1-phase

C. S-phase

D. G_2-phase

Answer: B

Watch Video Solution

14. Which of the following materials you will select to study mitosis ?

A. Anthers

B. Onion root tips

C. Flower bud

D. Pollen

Answer: B

Watch Video Solution

15. Mitosis in animal cell is

A. Anastral

B. Amphiastral

C. Pre-mitosis,acetric

D. Eumitosis acetric

Answer: B

Watch Video Solution

16. Mitosis is found in

A. Lower animals

B. Higher animals

C. All plants

D. All living organisms

Answer: D

Watch Video Solution

17. What is the proper sequence in mitosis ?

A. Metaphase,telophase,prophase, and anaphase

B. Prophase, metaphase,anaphase,and telophase

C. Anaphase,metaphase, teophase,and prophase

D. Telophase,anaphase,metaphase,and prophase

Answer: B

Watch Video Solution

18. The chromosome morphology is best studied during

A. Prophase

B. Metaphase, as the chromosomes are most condensed

C. Anaphase,as the chromosomes are most condensed

D. Telophase

Answer: B

Watch Video Solution

19. The two daughter cells formed during mitosis contains

A. The same amount of DNA but a set of chromosomes different from those of parental cells.

B. The same amount of DNA and the same set of chromosomes as those of the parent cell.

C. Half the amount of DNA and the same set of chromosomes as those of the parent cell.

D. Double the amount of DNA and a set of chromosomes different from those of the parent cell.

Answer: B

Watch Video Solution

20. Colchicine is a mitotic poison because it

A. Causes splitting up of chromosomes

B. Inhibits the formation of mitotic spindle

C. Stops the replication of chromosomes

D. Agglutinates the chromosomes

Answer: B

Watch Video Solution

21. Higher plants differ from animals in having

A. Spindle microtubule

B. Anastral mitosis

C. Kinetochores

D. Disappearance of nucleous during prophase

Answer: B

Watch Video Solution

22. During which phase the centromere splits and chromatids move toward the opposite poles by the shortening of spindle fibers attached to centromeres ?

A. Prophase

B. Metaphase

C. Anaphase

D. Telophase

Answer: C

Watch Video Solution

23. The region of the attachment of chromosome to spindle fibers is called

A. Centromere

B. Centriole

C. Chromonemata

D. Centrosome

Answer: A

Watch Video Solution

24. Which of the following phases are longest and shortest in mitosis ?

A. Metaphase,anaphase

B. Prophase,anaphase

C. Telophase,anaphase

D. Prophase,telophase

Answer: B

Watch Video Solution

25. Nuclear envelope disappears at

A. Metaphase

B. Anaphase

C. Early prophase

D. Late prophase

Answer: D

Watch Video Solution

26. When nuclear division takes place without cytoplasmic division, it results in the formation of

A. Polyteny

B. Syncytium

C. Polyploidy

D. Amitosis

Answer: C

Watch Video Solution

27. Cell would normally proceed to mitosis without interruption

A. When it has entered S-phase

B. Once it has entered G_2-phase

C. At any time during coil activity

D. Irrespective of any phase

Answer: A

Watch Video Solution

28. The term meiosis was coined by

A. Flemming

B. Farmer and Moore

C. Stasburger

D. Hofmeister

Answer: B

Watch Video Solution

29. Meiosis is evolutionary significant because it results in

A. Recombinations

B. Eggs and sperms

C. Four daughter cells

D. Genetically similar daughter cells

Answer: A

Watch Video Solution

30. All the essential stages that take place during meiosis, except

A. Two successive divisions without any DNA replication occuring between them

B. Formation of chisamata and crossing over

C. Segregation of homologous chromosomes

D. Number of chromosomes in daughter cells after meiosis-II is reduced to half, but the amount of DNA remains the same

Answer: D

Watch Video Solution

31. Stages in proper sequence of prophase I are

A. Zygotene, leptotene, pachytene, diakenesis, and diplotene

B. Leptotene, zygotene, pachytene, diplotene and diakenesis

C. Leptotene, zygotene, pachytene, diakenesis and diplotene

D. Leptotene, pachytene, zygotene, diakenesis and diplotene

Answer: B

Watch Video Solution

32. Intimate pairing between the two members of each homologous chromosome pair is initiated by the process called as synapsis, leading to bivalent formation, occurs in

A. Zygotene

B. Pachytene

C. Diplotene

D. Diakinesis

Answer: A

Watch Video Solution

33. Mitosis differs from meiosis in not having

A. Duplication of DNA

B. Long prophase

C. Interphase

D. Synapsis and crossing over

Answer: D

Watch Video Solution

34. Recombination nodules which mediate for chromosome recombination occur during

A. Zygotene

B. Diplotene

C. Diakinesis

D. Pachytene

Answer: D

Watch Video Solution

35. Crossing over occurs during

A. Pachytene

B. Diplotene

C. Diakinesis

D. Zygotene

Answer: A

Watch Video Solution

36. In oocytes, which of the following phase can lst for months or years, since it is at this stage the chromosomes decondense and engage in RNA synthesis ?

A. Diakinesis

B. Diplotene

C. Pachytene

D. Leptotene

Answer: B

Watch Video Solution

37. Nuclear membrane nucleoli are distinctly seen in

A. Prophase

B. Metaphase

C. Anaphase

D. Interphase

Answer: D

Watch Video Solution

38. In the meiotic cell division, 56 daughter cells are produced by two successive divisions in which

A. First division is equational, second is reductional

B. First division is redcutional, second is equational

C. Both divisions are reductional

D. Both divisions are equational

Answer: B

Watch Video Solution

39. Number of chromosomes in the primary oocyte is

A. Same as that of secondary oocyte

B. Half as that of secondary oocyte

C. Double as that of secondary oocyte

D. Same as that of ovum

Answer: C

Watch Video Solution

40. Terminalization is related to

A. Diakinesis

B. Meiosis

C. Mitosis

D. Diplotene

Answer: A

Watch Video Solution

41. Meiosis involves

A. One nuclear division and one chromosome division

B. Two nuclear divisions and one chromosome division

C. One nuclear division and two chromosome divisions

D. Two nuclear divisions and two chromosome divisions

Answer: B

Watch Video Solution

42. In meiosis, the daughter cells differ from parent cell as well as amongst themselves due to

A. Segregation and crossing over

B. Independent assortment and crossing over

C. Independent assortment, segregation and crossing over

D. Segregation and independent assortment

Answer: B

Watch Video Solution

43. The movement of homologous chromosomes toward the opposite poles occur by the contraction of spindle fibers during

A. Anaphase

B. Anaphase-I

C. Anaphase-II

D. Metaphase

Answer: C

Watch Video Solution

44. In plant cells, cytokinesis occurs by

A. Cell plate formation

B. Inavigination

C. Cleavage

D. Furrowing

Answer: A

Watch Video Solution

45. If the egg of an organism has 10 Pg of DNA in its nucleus, how much DNA would a diploid cell of same organism have in G2-phase of Meiosis

A. 10 Pg

B. 5 Pg

C. 20 Pg

D. 40 Pg

Answer: D

Watch Video Solution

46. How many meiotic divisions are essential in formation of 100 seeds in Cyperaceae family :-

A. 400

B. 125

C. 200

D. 25

Answer: C

Watch Video Solution

47. Amitosis is

A. Division involving forming of chromosome bridges

B. Division involving spindle formation

C. Division in which the chromosomes are unequally distributed

D. Cleavage of nucleus without recognizable chromosome distribution

Answer: D

Watch Video Solution

48. An interconnecting membranous network of the cell composed of vesicles, flattened sacs and tubules is

" " Or

Nuclear membrane is formed around the groups of daughter chromosomes during the telophase by

A. Endoplasmic reticulum

B. Golgi apparatus

C. Lysosomes

D. Microbodies

Answer: A

Watch Video Solution

49. How many generations are required by a cell of meristem to produce 256 cells ?

A. 255

B. 64

C. 128

D. 8

Answer: D

Watch Video Solution

50. To produce 102 pollen grains, how many meiotic divisions are required ?

A. 25

B. 25.5

C. 26

D. 27

Answer: C

Watch Video Solution

51. Mitosis occurs in

A. Haploid and individuals

B. Diploid individuals

C. Both (1) and (2)

D. In bacteria only

Answer: C

Watch Video Solution

52. The number of DNA in chromosomes in G2 state of cell cycle is

A. One

B. Two

C. Four

D. Eight

Answer: B

Watch Video Solution

53. Which is correct for meiotic metaphase-I ?

A. Bivalents are arranges at equator.

B. Univalents are arranged at equator.

C. Non-homologous chromosomes form pair.

D. Spindle fibres are attached at chromomere.

Answer: A

Watch Video Solution

54. In which stage of meiosis, the chromosome number reduces to half ?

A. Anaphase-I

B. Anaphase-II

C. Telophase-I

D. Telophase-II

Answer: C

Watch Video Solution

55. Chiasmata are formed as a result of

A. Exchange of pairs of paired homologous chromosomes

B. Exchange of part of unpaired non-homologous chromosomes

C. Duplication of parts of pairs of paired homologous chromosomes

D. Loss of parts of unpaired non-homologous chromosomes

Answer: A

Watch Video Solution

56. If n=16 in plant cell, then how many bivalents in metaphase-I of meiosis are possible ?

A. 32 bivalents

B. 16 tetravalents

C. 16 bivalents

D. 32 bivalents

Answer: C

Watch Video Solution

57. G_2 phase occurs between

A. Satellite

B. Chromonema

C. S & D phase

D. G1 & M phase

Answer: D

Watch Video Solution

58. Crossing over takes place between :

A. Two sister chromatids

B. Two non-sister chromatids

C. Three homologous chromosomes

D. Four non-homologous chromosomes

Answer: B

Watch Video Solution

59. The significance of meiosis lies in

A. Maintaining constancy in the number of chromosomes in an organism

B. Production of genetic varaiability in the population of species

C. Reduction of diploid number of chromosomes to haploid

D. All of the above

Answer: D

Watch Video Solution

60. Pairing of homologous chromosomes takes place in

A. Pachytene

B. Zygotene

C. Diplotene

D. None of these

Answer: B

Watch Video Solution

61. How many meiotic divisions will be necessary to produce two hundred pollen grains

A. 100

B. 99

C. 50

D. 200

Answer: C

Watch Video Solution

62. Which is the character of mitosis ?

A. Leptotene

B. Zygotene

C. Pachytene

D. None of the above

Answer: D

Watch Video Solution

63. Repulsion of homologous chromosomes takes place in

A. Zygotene

B. Leptotene

C. Diakinesis

D. Pachytene

Answer: C

Watch Video Solution

64. Synthesis of DNA takes place in

A. G_2

B. G_1

C. S

D. None of these

Answer: C

Watch Video Solution

65. Four daughter cells formed after meiosis are

A. Genetically similar

B. Genetically different

C. Anucleate

D. Mutinucleate

Answer: B

Watch Video Solution

66. During meiosis, the division of centromere takes place in

A. First prophase

B. First anaphase

C. Second metaphase

D. Second anaphase

Answer: D

Watch Video Solution

67. Bulk of histone proteins are synthesized in

A. G_1 phase

B. G_2 phase

C. S phase

D. G_0 phase

Answer: C

Watch Video Solution

68. Longest phase of meiosis is

A. Metaphse I

B. Prophase I

C. Anaphase I

D. Telophase I

Answer: B

Watch Video Solution

69. Colchicine prevents the mitosis of cell at

A. Prophase stage

B. Anaphase stage

C. Telophase stage

D. Metaphase stage

Answer: D

Watch Video Solution

70. The number of DNA in chromosome at G_2 stage is

A. One

B. Two

C. Four

D. Eight

Answer: B

Watch Video Solution

71. In meiosis, synapsis occurs during

A. Zygotene

B. Diplotene

C. Pachytene

D. Leptotene

Answer: A

Watch Video Solution

72. Significance of meiosis in

A. Reduction of chromosome number to one half

B. Maintaining constancy of chromosome number during sexual reproduction

C. Production of genetic variability

D. All of above

Answer: D

Watch Video Solution

73. Chromosomes can be seen best during

A. Prophase stage

B. Metaphase

C. Anaphase I

D. Telophase I

Answer: B

Watch Video Solution

74. What will be the gametic chromosome number of a cell, if somatic cell have 40 chromosome?

A. 10

B. 20

C. 30

D. 40

Answer: B

Watch Video Solution

75. In which of the following stages, chromosomes are arranged at equatorial plate?

A. Anaphase

B. Metaphase

C. Prophase

D. Telophase I

Answer: B

Watch Video Solution

76. During mitosis, the number of chromosomes gets

A. Changed

B. No change

C. May be changed if cell is mature

D. May be changed if cell is immature

Answer: B

Watch Video Solution

77. In meiosis chromosome number becomes

A. Half of its parent chromosome

B. Same as that of parent chromosome

C. One-fourth of its parent chromosome

D. None of the above

Answer: A

Watch Video Solution

78. Which one of the following precedes re-formation of the nuclear envelope during M phase of the cell cycle.

A. Transcription from chromosomes and reassembly of the nuclear lamina

B. Formation of the contractile ring and formation of the phragmoplast

C. Formation of the contractile ring and transcription from chromosome

D. Decondensation from chromosomes and reassembly of the nuclear lamina

Answer: D

Watch Video Solution

79. Crossing over that results in genetic recombination in higher organisms occurs between

A. Non-sister chromatids of a bivalent

B. Two daughter nuclei

C. Two different bivalents

D. Sister chromatids of a bivalent

Answer: A

Watch Video Solution

80. In the somatic cell cycle.

A. DNA replication takes place in S-phase

B. A short interphase is followed by a long mitotic phase

C. G_2 phase follows mitotic phase

D. In G_1 phase, DNA content is double the amount of DNA present in the original cell

Answer: A

Watch Video Solution

81. When synapsis is complete all along the chromosomes, the cell is said to have entered a stage called

A. Zygotene

B. Pachytene

C. Diplotene

D. Diakinesis

Answer: B

Watch Video Solution

82. Many cells function properly and divide mitotically even though they do not have

A. Plasma membrane

B. Cytoskeleton

C. Mitochondria

D. Plastids

Answer: D

Watch Video Solution

83. In which stage of the cell cycle are histone proteins synthesised in a eukaryotic cells ?

A. During telophase

B. During S phase

C. During G_2 stage of prophase

D. During entire prophase

Answer: B

Watch Video Solution

84. Crossing over takes place in :-

A. Zygotene

B. Pachytene

C. Diplotene

D. Diakinesis

Answer: B

Watch Video Solution

85. Which type of chromosome will appear 'L'-shaped during anaphase?

A. Telocentric

B. Acrocentric

C. Metacentric

D. Submetacentric

Answer: D

Watch Video Solution

86. A contractile mid body forms during cytokinesis in :-

A. Animals

B. Higher plants

C. Fungi

D. Algae

Answer: A

Watch Video Solution

87. Which chromosome may lost during cell division:

A. Giant chromosome

B. Acentric chromosome

C. Polycentric chromosome

D. Telocentric chromosome

Answer: B

Watch Video Solution

88. In which order, cytokinesis occurs in plants :-

A. Centripetal

B. Centrifugal

C. Oblique

D. Equatorial

Answer: B

Watch Video Solution

89. Meiosis dose not occur in

A. Ovule

B. Anther

C. Microsporangia

D. Shoot tip

Answer: D

Watch Video Solution

90. Which of the two events restore the normal number of chromosomes in life cycle?

A. Mitosis and Meiosis

B. Meiosis and fertilisation

C. Fertilisation and mitosis

D. Only meiosis

Answer: B

Watch Video Solution

91. Division of nucleus is indirect in

A. Mitosis and Meiosis

B. Meiosis and fertilisation

C. Amitosis

D. Both (1) and (2)

Answer: A

Watch Video Solution

92. Number of meiosis required to produce 100 megaspore in angiosperms is

A. 125

B. 100

C. 25

D. 75

Answer: B

Watch Video Solution

93. Constancy of the chromosome number in sexually produring generation is brought by the process of

A. Meiosis

B. Mitosis

C. Amitosis

D. None

Answer: A

Watch Video Solution

94. Match the column-I with column-II and select the correct answer.

	Column$-I$		Column$-II$
(A)	Pachytene	(i)	Synizesis
(B)	Zygotene	(ii)	Chiasma visible
(C)	Diplotene	(iii)	Terminalisation
(D)	Leptotene	(iv)	Gene exchange
(E)	Diakinesis	(v)	Synapsis

A. (A)-(i),(B)-(ii),(C)-(iii),(D)-(iv),(E)-(v)

B. (A)-(iv),(B)-(v),(C)-(ii),(D)-(i),(E)-(iii)

C. (A)-(iii),(B)-(iv),(C)-(v),(D)-(ii),(E)-(i)

D. (A)-(ii),(B)-(iii),(C)-(iv),(D)-(i),(E)-(v)

Answer: B

Watch Video Solution

95. Which division is characteristic of cartilage cells, mega nucleus of paramecium and foetal membranes?

A. Mitosis

B. Meiosis

C. Cryptomitosis

D. Amitosis

Answer: A

Watch Video Solution

96. Which part of plant is suitable for the study of meiosis?

A. Root apex

B. Ovary

C. Anther

D. Shoot apex

Answer: C

Watch Video Solution

97. Colchicine, a mitotic poison, arrests the cell division in

A. G_1 phase

B. G_2 phase

C. Anaphase

D. Metaphase

Answer: D

Watch Video Solution

98. Amitosis is a characteristic of

A. Higher plants

B. Higher animals

C. Bryophyta

D. Lower organisms

Answer: D

Watch Video Solution

99. Reason of chromosomal movement in Anaphase is

A. Astral rays

B. Centrioles

C. Kinetochore

D. Kinetochore and spindle fibres

Answer: D

Watch Video Solution

100. Nuclear envelope reappears at

A. Metaphse

B. Prophase

C. Anaphase

D. Telophase

Answer: D

Watch Video Solution

101. Slipping of chiasmata towards the ends of bivalent is called :-

A. Terminalisation

B. Diakinesis

C. Interkinesis

D. Heteropycnosis

Answer: A

Watch Video Solution

102. Duplication of chromosomes without the division of nucleus is called

A. Cytokinesis

B. Plasmotomy

C. Endomitosis

D. Dinomitosis

Answer: C

Watch Video Solution

103. Which division maintains genetic similarly?

A. Mitosis

B. Amitosis

C. Reduction division

D. Meiosis

Answer: A

Watch Video Solution

104. Best material for studying mitosis in laboratory is

A. Anther

B. Root tip

C. Leaf tip

D. Ovary

Answer: B

Watch Video Solution

Assertion Reasoning Questions

1. Assertion: Endomitosis does not cause karyokinesis or cytokinesis.

Reason : In endomitosis, mitosis occurs within nucleus.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true, but the Reason is not the correct explanation of the Assertion.

C. If Assertion is true, but Reason is false.

D. If both Assertion and Reason are false.

Answer: A

Watch Video Solution

2. Assertion: Synaptonemal complex develops between two synapsed homologous chromosomes.

Reason : Mitosis cannot be completed without the synaptonemal complex.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true, but the Reason is not the correct explanation of the Assertion.

C. If Assertion is true, but Reason is false.

D. If both Assertion and Reason are false.

Answer: C

Watch Video Solution

3. Assertion: During anaphase-II, the chromatids of a chromosome separate.

Reason: Centromere of a mitotic chromosome divides during anaphase.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true, but the Reason is not the correct explanation of the Assertion.

C. If Assertion is true, but Reason is false.

D. If both Assertion and Reason are false.

Answer: B

Watch Video Solution

4. Assertion: Each chromosome of bivalent attaches with two spindles in metaphase.

Reason: In metaphase, bivalents migrate toward metaphasic plate.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true, but the Reason is not the correct explanation of the Assertion.

C. If Assertion is true, but Reason is false.

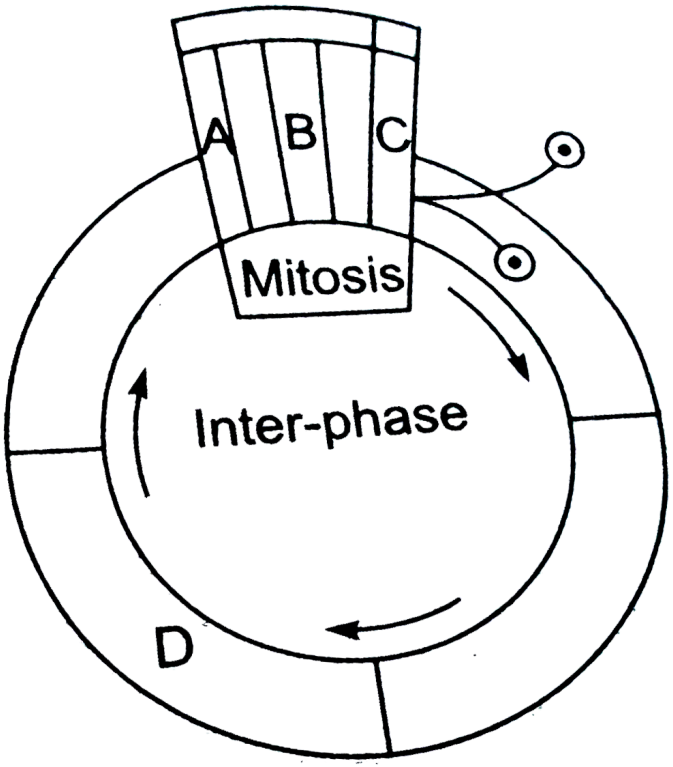
D. If both Assertion and Reason are false.

Answer: D

Watch Video Solution

Archives Chose The Corrct Option

1. Given below is a schematic break-up of the phases/stages of cell cycle. Which one of the following is the correct indication of the stage/phase in the cell cycle?



A. A-cytokinesis

B. B-Prophase

C. C-Karyokinesis

D. D-synthetic phase

Answer: D

Watch Video Solution

2. Synapsis occurs between

A. two homologaus chromosomes

B. a male and a female gamete

C. mRNA and ribosomes

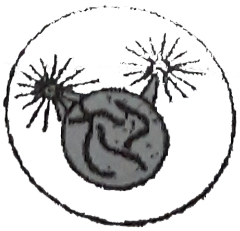
D. spindle fibres and centromere

Answer: A

Watch Video Solution

3. Which stages of cell division do the following figures A and B represent respectively

A



B

A. Metaphase-Telophase

B. Telophase-Metaphase

C. Late Anaphase-Prophase

D. prophase-Anaphase

Answer: C

Watch Video Solution

4. During mitosis ER and nucleolus begin to disappear at

A. Late prophase

B. Early metaphase

C. Late metaphase

D. Early prophase

Answer: D

Watch Video Solution

5. Select the correct option with respect to mitosis

A. Chromosomes move to the spindle equator and get aligned along equatorial plate in metaphase

B. Chromatids separate but remain in the centre of the cell in anaphase

C. Chromatids start moving towards opposite poles in telophase

D. Golgi complex and endoplasmic reticulum are still visible at the end of prophase

Answer: A

Watch Video Solution

6. During gamete formation, the enzyme recombinate participates during

A. Anaphase II

B. Prophase I

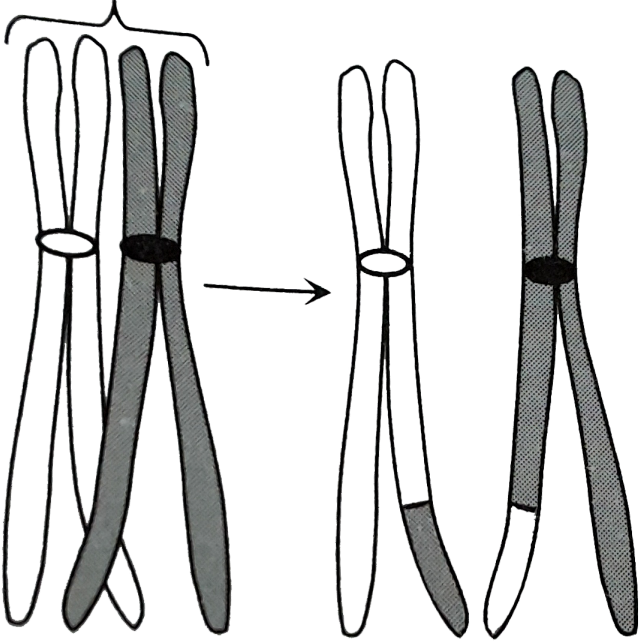
C. Prophase II

D. Metaphase I

Answer: B

Watch Video Solution

7. Given below is the representation of a certain event at a particular stage of a type of cell division. Which is this stage



A. Prophase of mitosis

B. Both prophase and metaphase of mitosis

C. Prophase-I during meiosis

D. Prophase-II during meiosis

Answer: C

Watch Video Solution

8. The complex formed by a pair of synapsed homologous chromosomes is called

A. Equatorial plate

B. Kinetochore

C. Bivalent

D. Axoneme

Answer: C

Watch Video Solution

9. The enzyme recombinase is required in which stage of meiosis ?

A. Pachytene

B. Zygotene

C. Diplotene

D. Diakinesis

Answer: C

Watch Video Solution

10. In 'S' phase of the cell cycle

A. amount of DNA doubles in each cell

B. amount of DNA remains same in each cell

C. chromosome number is increased

D. amount of DNA is reduced to half in each cell

Answer: A

Watch Video Solution

11. During which phase(s) of cell cycle amount of DNA in a cell remains at 4C level if the initial amount is denoted an 2C

A. G_0 and G_1

B. G_1 and S

C. Only G_2

D. G_2 and M

Answer: C

Watch Video Solution

12. A somatic cell that has just completed has just completed the S-phase of its cell cycle, as compared to gamete of the same species, has

A. four times the number of chromosomes and twice the amount of DNA

B. twice the number of chromosomes and twice the amount of DNA

C. same number of chromosomes but twice the amount of DNA

D. twice the number of chromosomes and four times the amount of DNA

Answer: C

Watch Video Solution

13. Select the correct option:

	I
(a)	Synapsis aligns homologous chromosomes
(b)	Synthesis of RNA and protein
(c)	Action of enzyme recombinase
(d)	Centromeres do not separte but chromatids move towards opposite p

A. (a) (b) (c) (d)
(ii) (iii) (iv) (v)

B. (a) (b) (c) (d)
(ii) (i) (iii) (iv)

C. (a) (b) (c) (d)
(ii) (iii) (v) (iv)

D. (a) (b) (c) (d)
(iii) (ii) (v) (i)

Answer: C

Watch Video Solution

14. Arrange the following events of meiosis in correct sequence

(a) Crossing over

(b) Synapsis

(c)Terminalisation of chiasmata

(d) Disappearance of nucleolus.

A. (b), (c), (d), (a)

B. (b), (a), (d), (c)

C. (b), (a), (c), (d)

D. (a), (b), (c), (d)

Answer: C

Watch Video Solution

15. Spindle fibers attach on to

A. Telomere of the chromosome

B. Kinetochore of the chromosome

C. Centromere of the chromosome

D. Kinetosome of the chromosome

Answer: B

Watch Video Solution

16. In meiosis crossing over is initiated at

A. Pachytene

B. Leptotene

C. Zygotene

D. Diplotene

Answer: A

Watch Video Solution

17. Which of the following is not a characteristic feature during mitosis in somatic cells ?

A. Spindle fibres

B. Disappearance of nucleolus

C. Chromosome movement

D. Synapsis

Answer: D

Watch Video Solution

18. A cell at telophase stage is observed by a student in a plant brought from the field. He tells his teacher that this cell is not like other cells at telophase stage. There is no formation of cell plate and thus the cell is containing more number of chromosomes as compared to other dividing cells. This would result in

A. Aneuploidy

B. Polyploidy

C. Somaclonal variation

D. Polyteny

Answer: B

Watch Video Solution

19. During cell growth, DNA synthesis takes place in

A. G_2 phase

B. M phase

C. S phase

D. G_1 phase

Answer: C

Watch Video Solution

20. When cell has stalled DNA replication fork, which check-point should be predominantly activated?

A. M

B. Both G_2/M and M

C. G_1/S

D. G_2/M

Answer: C

Watch Video Solution

21. Match the stages of meiosis in Column-I to their characteristic feature in Column-II and select the correct option using the codes given below:

Column-I		Column-II	
(a)	Pachytene	(i)	Pairing of homologous chromosomes
(b)	Metaphase-I	(ii)	Terminalization of chiasmata
(c)	Diakinesis	(iii)	Crossing over takes place
(d)	Zygotene	(iv)	Chromosomes align at equatorial plate


Watch Video Solution