



BIOLOGY

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CELL CYCLE

Textbook Questions And Answers Mcq

1. The correct sequence in cell cycle is

A. $S - M - G_1 - G_2$

B. $S - G_1 - G_2 - M$

C. $G_1 - S - G_2 - M$

D. $M - G_1 - G_2 - S$

Answer: C



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2. If mitotic division is restricted in G_1 phase of the cell cycle then the condition is known as

A. S Phase

B. G_2 Phase

C. M Phase

D. G_0 Phase

Answer: D



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3. Anaphase promoting complex APC is a protein degradation machinery necessary for proper mitosis of animal cells. If APC is

defective in human cell, which of the following is expected to occur ?

- A. Chromosomes will be fragmented
- B. Chromosomes will not condense
- C. Chromosomes will not segregate
- D. Recombination of chromosomes will occur

Answer: C



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4. 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



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5. Centromere is required for

A. transcription

B. crossing over

C. Cytoplasmic cleavage

D. movement of chromosome towards pole

Answer: D



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6. Synapsis occur between

A. mRNA and ribosomes

B. spindle fibres and centromeres

C. two homologous chromosomes

D. a male and a female gamete

Answer: C



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7. In meiosis crossing over is initiated at

A. Diplotene

B. Pachytene

C. Leptotene

D. Zygotene

Answer: A



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8. Colchicine prevents the mitosis of the cells at which of the following stage

A. Anaphase

B. Metaphase

C. Prophase

D. interphase

Answer: D



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9. The pairing of homologous chromosomes on meiosis is known as

- A. Bivalent
- B. Synapsis
- C. Disjunction
- D. Synergids

Answer: B



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10. Anastral mitosis is the characteristic feature of

- A. Lower animals
- B. Higher animals
- C. Higher plants
- D. All living organisms

Answer: C



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Textbook Questions And Answers Answer The Following Questions

1. Write any three significance of mitosis .



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2. Write any three significance of mitosis .



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3. Write any three significance of mitosis .



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4. Differentiate between mitosis and meiosis.



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5. Give an account of G_0 phase.



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6. Differentiate cytokinesis in plant cells and animal cells.



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7. Differentiate cytokinesis in plant cells and animal cells.



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8. Write about Pachytene and diplotene of prophase I.



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9. Write about Pachytene and diplotene of prophase I.



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[Other Important Questions And Answers Mcq](#)

1. The term cell was coined by

A. Robert brown

B. Leewenhock

C. Anton

D. Robert Hooke

Answer: D



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2. Which of the following is incorrect about role of nucleus?

A. Control activities of the cell

B. Genetic information copied from cell to cell

C. Gametic cells fused together in sexual reproduction

D. Characters passed on to new individuals

Answer: C



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3. Phase G_1 and the time duration is:

A. 8

B. 1

C. 11

D. 4

Answer: C



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4. Phase S and the time duration is:

A. 8

B. 1

C. 11

D. 4

Answer: A



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5. Phase G_2 and the time duration is:

A. 8

B. 1

C. 11

D. 4

Answer: D



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6. Phase M and the time duration is:

A. 8

B. 1

C. 11

D. 4

Answer: B



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7. Name the two types of nuclear division.

A. Mitosis

B. Mitosis and Meiosis

C. A Mitosis

D. Meiosis

Answer: B



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8. The check point is otherwise called:

- A. Important point
- B. collecting point
- C. restriction point
- D. Controlling point

Answer: C



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9. In Sphase DNA count increases from 2C to:

A. 3C

B. 4C

C. 5C

D. 6C

Answer: B



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10. Which among the following, Microtubules are formed?

A. G_0

B. G_1

C. S

D. G_2

Answer: D



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11. Which of the following animals can regenerate its broken body part?

A. star fish

B. amoeba

C. shark

D. jelly fish

Answer: A



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12. Pick the incorrect statement of significance of meiosis:

- A. maintain definite constant number of chromosome
- B. Adaption of organism to various stress
- C. crossing over takes place
- D. The chromosome number increases in the organism.

Answer: D



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13. Which one of the following is not a mitotic poisons?

A. Cyanide

B. A zide

C. 2, 4, dinitrophenol

D. Polyamines

Answer: D



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14. insulin and steroid hormones are the examples of:

- A. Inhibiting factors
- B. Growth factors
- C. Limiting factors
- D. Synthetic factors

Answer: B



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15. Identify the correct statement for equational division:

A. The number of chromosomes in the parent and daughter cells remains the same

B. Chromosome in the parent and daughter are different

C. Double the number of chromosome

D. It depends upon the division

Answer: A



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16. The number of chromosomes found in human beings are_____

A. 36

B. 40

C. 46

D. 16

Answer: C



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17. The chromosomes of a cell occur in pairs called:

- A. haploid pair
- B. homologous pair
- C. diploid pair
- D. Tetraploid

Answer: B



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18. . The amount in picograms of DNA contained within a haploid nucleus is called:

A. B - value

B. X - value

C. Y - value

D. C-value

Answer: D



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19. In meiosis, the daughter cells contain half the number of chromosomes of the parent cell and is known as:

A. Triploid

B. Haploid

C. Tetraploid

D. Diploid

Answer: B



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20. The major check point which operates in G₂ to determine whether or not a cell divides is:

- A. Kinase
- B. protease
- C. cyclins
- D. pepsin

Answer: C



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21. A cell division in which no spindle formation and non condensation of chromatin material is called:

A. Mitosis

B. Amitosis

C. Meiosis

D. None of the above

Answer: B



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22. Karyokinesis involves in:

- A. division of cytoplasm
- B. division of cells
- C. division of nucleus
- D. none of the above

Answer: C



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23. The sequence of stages of mitotic cell division is as follows:

A. Metaphase, Anaphase, Prophase and

Telophase

B. Telophase, Anaphase, Prophase and

Metaphase

C. Prophase, Anaphase, Telophase and

metaphase

D. Prophase, Metaphase, Anaphase and
Telophase.

Answer: D



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24. The longest phase in mitosis is:

A. Metaphase

B. Telophase

C. Prophase

D. Anaphase

Answer: C



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25. The cells, which do not form asters during cell division are:

A. Animal cells

B. Plant cells

C. Virus

D. none of the above

Answer: B



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26. Mitosis cell division occurs during

A. Cogeneration

B. Gametogenesis

C. Somatic growth

D. Spermatogenesis

Answer: C



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27. The golgi vesicles contain carbohydrates such as:

A. Pectin

B. Actin

C. Glucose

D. Fructose

Answer: A



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28. A sexual reproduction is prominent is:

- A. Star fish
- B. Dolphin
- C. Yeast
- D. Delonix regia

Answer: C



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29. Synapsis takes place in meiosis during

A. Pachytene

B. Pachytene

C. Diplotene

D. Zygotene

Answer: D



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30. Chiasmata is the point where:

A. Crossing over takes place.

B. Nuclear division takes place

C. Cytokinesis occur

D. Nucleolus disappears

Answer: A



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31. The random distribution of homologous chromosomes in a cell in metaphase I of meiotic cell division is called:

- A. Segregation
- B. Independent assortment
- C. Linkage
- D. None of the above

Answer: B



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32. The stage between two meiotic divisions is called:

A. Karyokinesis

B. cytokinesis

C. Interphase

D. Interkinesis

Answer: D



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33. The factors which promote cell cycle proliferation is called:

- A. Mitotic poison
- B. action
- C. mitogen
- D. recombinase core

Answer: C



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Other Important Questions And Answers Short Answers

1. Who coined the word "Cell" and "protoplasm"?



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2. Mentions any two roles of nucleus.



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3. What do you mean by haploid cell ?



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4. Define cytokinesis.



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5. What is C- value?



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6. What do you know about clone dolly?



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7. What is Maturation Promoting Factor ?



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8. Describe amitosis.



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9. What are the drawbacks of amitosis ?



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10. What is closed mitosis ?



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11. How does an aster form?



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12. What do you mean by anaphase - promoting complex cyclosome (APC/C)



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13. List out various stages of prophase I of Meiotic cell division



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14. Define chiasmata.



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15. What is metaphase plate?



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16. What do you mean by interkinesis?



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17. What is the significance of meiosis ?



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18. Explain the term 'Mitogen'.



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19. Define Anastral condition in cell division.



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20. Explain Amphiasstral condition.



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Other Important Questions And Answers Answer In Brief

1. Write the four important features of the chromosome.



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2. Write the four important features of the chromosome.



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3. Write the four important features of the chromosome.



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4. Tabulate the time duration in hours of the different phases of cell cycle.



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5. Explain G_1 phase of cell cycle.



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6. Distinguish between Karyokinesis & Cytokinesis .



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7. Describe the prophase of Mitotic cell division.





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8. How will you calculate the length of the S period.



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9. Briefly describe cytokinesis in plant cells.



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10. Explain the sequences of Anaphase I
Telophase I in Meiotic cell division.

(i)Anaphase I:



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11. Explain the sequences of Anaphase I
Telophase I in Meiotic cell division.

(i)Anaphase I:



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12. Give the differences between mitosis in plant and animal cells



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13. What is endomitosis ?



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**Other Important Questions And Answers Answer
In Detail**

1. Draw and label the events of cell cycle.



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2. Draw the schematic diagram of anaphase promoting complex cyclosome and explain briefly.



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3. Explain the events take place at metaphase and anaphase stages of somatic cell division with diagram.



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4. Explain in detail about the various stages of Prophase I.



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5. Explain the different stages of prophase 1 of meiotic cell division

(ii) Leptotene:



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6. Give an account of the substage zygotene.



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7. Write about pachytene of prophase I.



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8. Write about Pachytene and diplotene of prophase I.



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9. Explain the different stages of prophase 1 of meiotic cell division

(vi) Chiasmata



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10. Explain the different stages of prophase 1 of meiotic cell division

(vii) Diakinesis:



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11. Differentiate between mitosis and meiosis.



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12. Draw and label the various stages of mitosis cell division.



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