

Board – CBSE

Class – 11

Chapter: Cell cycle and cell division

1. Name the plant and animal tissue that undergoes meiosis.
2. What is the role of centrioles apart from spindle formation?
3. Define cell cycle.
4. What happens to the DNA of the plastids and mitochondria during nuclear divisions such as mitosis?
5. Describe the different phases of meiotic prophase – I. Mention the chromosomal events during each stage.
6. Telophase is the reverse of prophase. Elucidate the statement.
7. State differences between the events of meiosis and mitosis.
8. Write the phases of the cell cycle against each of the events
 - a) The disintegration of the nuclear membrane
 - b) The appearance of the nucleolus
 - c) Division of centromere
 - d) Replication of DNA
9. How does cytokinesis in plant cells differ from that in animal cells?
10. An anther has 1200 pollen grains. How many pollen mother cells must have been there to produce them?
11. Cells which are not dividing are likely to be at
 - a) G1
 - b) G2
 - c) G₀
 - d) S phase
12. Explain: a) Synaptonemal complex b) Metaphase plate
13. Which phase is the longest in the cell cycle?
14. Name the last stage of karyokinesis of meiosis I. Mention the events that occur during this stage and also represent this stage with the help of a diagram.
15. Draw the diagram of following stages:

- (i) Metaphase II
 - (ii) Leptotene
 - (iii) Cell plate formation
 - (iv) Diplotene
16. Describe the process of cytokinesis which occurs by the centripetal movement of the plasma membrane.
17. Name the phase in which the chromatids move apart in mitosis and meiosis.
18. Diagrammatically represent different phases of the cell cycle.
19. How chromosomes are formed from chromatin?
20. What is the significance of pachytene?
21. Briefly describe why meiosis I is called reductional division and meiosis II is called equational division?
22. What is chiasmata? Explain its significance.
23. What is crossing over? Explain with a diagram.
24. Explain the events occurring during telophase.
25. Explain the events occurring during metaphase II.
26. Describe the quiescent stage of the cell cycle.
27. Diagrammatically explain the behaviour and structure of chromosomes during interphase and mitosis.
28. Write the significance of meiosis.
29. In which phase of the cell cycle, the following take place?
- (i) Replication or duplication of DNA
 - (ii) Separation of chromatids
30. What is the major difference between S phase and M phase of the cell cycle?