

CHAPTER 10: CELL CYCLE AND CELL DIVISION

ONE MARK QUESTIONS:

1. Define cell cycle. [K]
2. The events of the cell cycle are under genetic control. Why? [R]
3. What is the approximate duration for human cells to divide? [K]
4. Which phase is present between two successive M-phase of the cell cycle? [K]
5. What happens during G_1 phase? [K]
6. What happens during S phase? [K]
7. What happens during G_2 phase? [K]
8. Define Karyokinesis. [K]
9. Define cytokinesis? [K]
10. Name the resting phase of cell cycle? [K]
11. What is the chromosome number of onion? [K]
12. How many chromosomes will the onion cell have at G_1 phase? [U]
13. During which phase DNA replication takes place? [K]
14. What is G_0 or quiescent phase of cell cycle? [K]
15. During which phase of mitosis initiation of condensation of chromosomal material takes place. [K]
16. Chromosomes appear clearly under microscope at which stage of M-phase. [K]
17. What are Kinetochores? [K]
18. During which stage of mitosis, can we study the morphology of chromosomes? [K]
19. What is the importance of Kinetochores? [K]
20. What do you mean by metaphase plate? [K]
21. What is cell plate? [K]
22. Which cell division is also called as equational division? [K]
23. Why mitosis is called equational cell division? [R]
24. Which cell division is responsible for the formation of gametes? [K]
25. Define Mitosis. [K]
26. Define Meiosis. [K]
27. Name the cell division which is responsible for production of diploid daughter cells. [K]
28. Name the cell divisions which come across only during gametogenesis? [K]
29. During which stage of meiosis synopsis occurs. [K]
30. What do you mean by crossing over? [K]
31. Name the enzyme involved in crossing over. [K]
32. Name the stage of prophase- I of meiosis during which recombination nodules are formed. [K]
33. What is the significance of crossing over? [K]
34. What are recombination nodules? [K]
35. What do you mean by chiasmata? [K]
36. Name the stage of prophase- I of meiosis during which chiasmata is formed. [K]
37. Terminalisation of chiasmata occurs during which stage of prophase-I. [K]
38. What is interkinesis? [K]
39. Which is the last stage of prophase-I? [K]
40. At the end of meiosis how many haploid cells are formed? [U]
41. What is a bivalent? [K]
42. Which is the first stage of prophase-I? [K]

TWO MARKS QUESTIONS:

1. Why mitosis is called as equational division. Justify. [R]
2. What are the organelles which disappear at the end of prophase in mitosis? [K]
3. Explain how syncytium condition is formed in some organisms. Give an example for it. [U]
4. Write difference between Animal and Plant mitotic division with respect to ploidy. [U]
5. Draw a neat labeled diagram of cell cycle. [S]
6. Mention the four phase of Mitosis. [U]
7. Describe the events taking place during interphase. [S]
8. Name the two basic phases of cell cycle. [K]

THREE MARKS QUESTIONS:

1. Write the significance of Meiosis. [U]
2. Explain Prophase of Mitosis. [U]
3. Explain Metaphase of mitosis. [U]
4. Explain Anaphase of mitosis. [U]
5. Draw a neat labeled diagram of Metaphase and Anaphase of mitosis. [S]
6. Write a note on Diplotene of prophase-I of meiosis. [U]
7. Write a note on pachytene of prophase-I of meiosis. [U]
8. Name the cell organelles which reappear after Telophase in mitosis. [K]
9. What are the events of Diplotene stage?(K)
10. What are the events of Pachytene stage?(K)

FIVE MARKS QUESTIONS:

1. With neat labeled diagram explain the events of cell cycle. [S]
2. Explain the stages of mitosis with neat labeled diagram. [S]
3. Describe the events of prophase-I of meiosis-I. [S]
4. Differentiate between mitosis and meiosis. [S]
5. Explain meiosis-II with neat labeled diagram. [S]
6. Write the significance of mitosis. [U]
7. Explain how cytokinesis occurs in plant cell and animal cell. [S]
8. Explain the process of cytokinesis in Mitosis. [U]
9. With respect to Meiosis – Define the following. [K]
 - a) Bivalent
 - b) Recombination nodules
 - c) Crossing over
 - d) Recombination
 - e) Chiasmata