

## Chapter- 10

# CELL CYCLE AND CELL DIVISION

### VERY SHORT ANSWER QUESTIONS (1 mark)

01. Name the phases of the cell cycle.
02. In which phase of the interphase DNA replication occurs.
03. Name the three types of cell division.
04. What is Karyokinesis?
05. What is cytokinesis?
06. In which phase of cell division the chromosomes are set free in the cytoplasm.
07. Name the phase of cell division in which the centromeres line up at the equator of the spindle.
08. By which method cytokinesis occurs in an animal cell?
09. Name the method by which cytokinesis takes place in a plant cell.
10. Which organisms have intranuclear mitosis?

### SHORT ANSWER TYPE QUESTIONS (2 marks)

11. What is the role of asters in cell division?
12. What is interkinesis?
13. Explain the term kinetochore.
14. Name the components of a mitotic apparatus in an animal cell. Which of them a plant cell lacks.
15. What is a homologous chromosome?
16. Why is it not possible to shorten the cell cycle?
17. Why should the daughter cells inherit cytoplasm also besides the nuclear from the parent cell?

### SHORT ANSWER TYPE QUESTIONS (3 marks)

18. Draw a figure of the cell cycle.

19. What are chiasmata? State this significance?.
20. Why is meiosis essential in sexually reproducing organisms?
21. State the role of centrioles in cell division.
22. Explain the process of cytokinesis in plant cells.
23. What is the quiescent stage of the cell cycle?
24. What are homologous chromosomes? What happens to the homologous chromosome during meiosis?

**LONG ANSWER TYPE QUESTIONS (5 marks)**

25. Distinguish between mitosis and meiosis.
26. Describe the meiotic cell division.
27. Differentiate between Cytokinesis of plant cell and animal cell. With a suitable diagram.

**HOTS/ MODEL QUESTIONS:**

01. Give an alternative term for meiosis.
02. What are the life cycle with diploid adult and gametic meiosis called?
03. Name the stage of meiosis in which the paired homologous chromosomes get shortened and thickened?
04. Name the phase in which the chromatids move apart in mitosis and meiosis.
05. Where do mitosis and meiosis occur in animals and plants?
06. Why do the chromosomes become short and thick in prophase?
07. What brings about the cleavage of an animal cell after telophase?
08. What does it show that the cell's entire energy is devoted to the process of division in the m phase?
09. Why is colchicine called mitotic spindle?
10. What do you mean by heterotypic division? Explain.
11. When and why does a reduction in several chromosomes take place in meiosis?