DPP
DAILY PRACTICE PROBLEMS

**Class : XIth** **Subject : BIOLOGY**
**Date :** **DPP No. : 4**

# Topic :- Cell Cycle and Cell Division

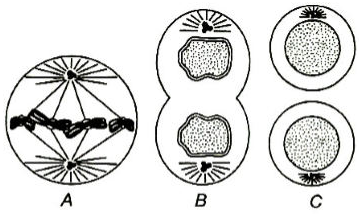
1. Dictyotene a is prolonged
   a) Leptotene b) Pachytene c) Diplotene d) Zygotene

2. Which of the following is unique to mitosis and not a part of meiosis?
   a) Homologous chromosomes behave independently
   b) Chromatids are separated during anaphase
   c) Homologous chromosomes pair and form bivalents
   d) Homologous chromosomes crossover

3. Spindle fibre is made up of
   a) Humulin
   b) Intermediate filament
   c) Flagellin
   d) Tubulin

4. There are three genes $a$, $b$, $c$ with percentage of crossing over between $a$ and $b$ is 20%, $b$ and $c$ is 28% and $a$ and $c$ is 8%. What is the sequence of genes on chromosome?
   a) $b, a, c$ b) $a, b, c$ c) $a, c, b$ d) None of these

5. See the diagrams carefully and identify the different stages of mitosis $(A - C)$ by choosing appropriate options given below




   a) A-Metaphase; B-Telophase; C-Interphase
   b) A-Telophase; B-Metaphase; C-Prophase
   c) A-Anaphase; B-Telophase; C-Interphase
   d) A-Telophase; B-Anaphase; C-Prophase

6. During which stage of meiosis, do tetrads line up at the equator?
   a) Prophase-I b) Telophase-I c) Metaphase-I d) Anaphase-I

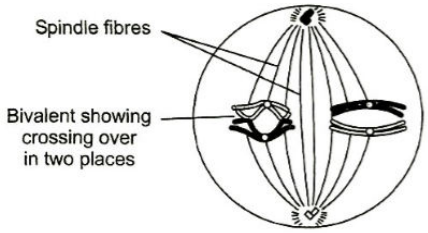
7. The anaphase promoting complex is activated by
   a) M cdk cyclin b) $G_1$ cdk cyclin c) S cdk cyclin d) Transaction factor

8. A cell plate is laid down during
   a) Cytokinesis
   b) Karyokinesis
   c) Interphase
   d) None of these

9. During which stage of meiosis, do the sister chromatids begin to move towards the poles?
   a) Prophase-I b) Telophase-I c) Anaphase-II d) Anaphase-I

10. In a cell cycle, which structures serves as the site of attachment of spindle fibres?
    a) Chromosomes b) Histone c) Chromonemeta d) Kinetochore

11. Identify the diagram and name the phase of meiosis carefully




    a) Telophase-I b) Anaphase-I c) Metaphase-I d) Prophase-I

12. Which of the following serves as mitotic spindle poison?
    a) $Ca^{2+}$ b) $Mg^{2+}$ c) Tubulin d) Colchicine

13. Chromosomes are visible with chromatids at which phase of mitosis?
    a) Interphase b) Prophase c) Metaphase d) Anaphase

14. RNA and proteins are formed in
    a) $G_1$-phase b) $G_2$-phase c) S-phase d) $G_0$-phase

15. Give the name of the phases of meiosis, in which
    I. the chromosome number is reduced to haploid state
    II. the amount of DNA is reduced to haploid state
    The correct option is
    a) Anaphase-II; anaphase-I
    b) Anaphase-I, metaphase-II
    c) Anaphase-I, anaphase-II
    d) Anaphase-II, metaphase-I

16. What type of cell division takes place in the functional megaspore initially in angiosperms?
    a) Homeotypic without cytokinesis
    b) Reductional without cytokinesis
    c) Somatic followed by cytokinesis
    d) Meiotic followed by cytokinesis

17. Which of the following statements are correct for multicellular cell division?
    I. Cell division brings about embryonic development and growth
    II. It plays a role in repair and maintenance of the body
    III. It is important for reproduction
    The correct option is
    a) Only I b) I and III c) Only II d) I, II and III

18. Meiosis involves two sequential cycles of …A… called meiosis-I and meiosis-II but only a single cycle of …B…
    Identify A and B to complete the given statement
    a) A-nuclear and cell division, B-DNA replication
    b) A-cell division, B-DNA replication
    c) A-DNA replication, B-cell division
    d) A-nuclear division, B-DNA replication

19. During, meiosis-I, the bivalent chromosomes clearly appear as tetrads during
    a) Diakinesis b) Diplotene c) Leptotene d) Pachytene

20. DNA replicates
    a) Twice in each cell cycle
    b) Only once in each cell cycle
    c) Once in mitotic cell cycle, once in meiotic-I (reductional division) and once in meiotic-II (equational division)
    d) None of the above