

SAINIK SCHOOL GOPALGANJ
ASSIGNMENTS
BIOLOGY (44)

Chapter 10: Cell Cycle and Cell Division
General Instructions

Class: XI

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1. All questions are compulsory.
 2. Question 1 to 10 is multiple choice questions.
 3. Question 11 to 15 is short answer questions.
 4. Question 16 to 20 is long answer questions
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1. The division of cytoplasm is known as
 - (a) Mitosis
 - (b) Synapsis
 - (c) Cytokinesis
 - (d) Karyokinesis
2. The stage in which chromosomes align on the equator of spindle fiber is
 - (a) Telophase
 - (b) Anaphase
 - (c) Metaphase
 - (d) Prophase
3. The best stage at which the total number of chromosomes can be counted in any species is
 - (a) Telophase
 - (b) Metaphase
 - (c) Late anaphase
 - (d) Late prophase
4. Balbiani rings are found in
 - (a) Heterosome
 - (b) Lampbrush chromosome
 - (c) Autosome
 - (d) Polytene chromosome
5. This structure tends to vanish always during meiosis and mitosis
 - (a) Plastids
 - (b) Plasma membrane

- (c) Nucleolus and nuclear membrane
 - (d) All of these
6. Centrosome duplication takes place in this phase
- (a) S phase
 - (b) G1 phase
 - (c) G0 phase
 - (d) M phase
7. The _____ checkpoint is also known as restriction point
- (a) G1 checkpoint
 - (b) G2 checkpoint
 - (c) M checkpoint
 - (d) None of these
8. The characteristic of this stage of mitosis is the separation of the sister chromatids
- (a) Telophase
 - (b) Metaphase
 - (c) Prometaphase
 - (d) Anaphase
9. This condition is necessary for a cell to qualify through the G2 checkpoint
- (a) Cell should be of a size sufficient enough
 - (b) Complete and accurate DNA replication
 - (c) Sufficient stockpile of nucleotides
 - (d) Complete attachment of mitotic spindle fibers to kinetochores
10. Individual chromosomes become distinct through a light microscope during this mitotic stage
- (a) Prometaphase
 - (b) Prophase
 - (c) Anaphase
 - (d) Metaphase
11. What is the role of centrioles apart from spindle formation?
12. A cell having 32 chromosomes undergoes mitotic division. During metaphase, what will the chromosome number (N) of the cell? During anaphase, what will the DNA content of the cell be?

13. Under uncontrolled cell division, what is the pathological condition that occurs?
14. Which is the cell that is captured in the diplotene phase for months and years? How does it complete its cell cycle?
15. Which tissue of animals and plants exhibit meiosis?
16. Describe the different phases of meiotic prophase – I. Mention the chromosomal events during each stage.
17. State differences between the events of meiosis and mitosis.
18. 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
19. What is cell cycle? Describe with suitable diagram.
20. Explain:
 - a) Synaptonemal complex
 - b) Metaphase plate