

Biology - 12th Class Biology Chapter 21 Short Questions Preparation

Q1. Define cell cycle.

Ans 1: The cell undergoes a sequence of changes, which involves period of growth, replication of DNA, followed by cell division. This sequence of changes is called cell cycle.

Q2. Discuss diakinesis in meiosis.

Ans 1: During this phase the condensation of chromosomes reaches to its maximum. At the same time separation of homologous chromosomes is completed, but still they are united at one point, more oftenly at ends. Nucleoli disappear.

Q3. Give causes and symptoms of Down's syndrome. Or Write symptoms of Down's syndrome.

Ans 1: The cause of Down's syndrome is the missing of 21st chromosomes due to non disjunction. The affected individuals have a flat, broad face, squint eyes with folds in the inner corner and protruding tongue, mental retardation and defective development of central nervous system.

Q4. What is Klinefelter's syndrome?

Ans 1: The individual have an additional sex chromosome i.e. 47.(44+xy). They are phenotypically male but have frequently enlarged breast, tendency to tallness, obesity, small testes with no sperms at ejaculation and under development of Secondary sex characters.

Q5. What are three sets of microtubules which originate from each pair of centriole during mitosis?

Ans 1: Three sets microtubules originate from centrioles are asteral microtubules radiate outward and from aster while other two sets of microtubules compose the spindle i.e the kinetochore microtubules and polar microtubules.

Q6. Write down the events of metaphase of mitosis.

Ans 1: The Kinetochore fibers of spindles attach to the kinetochore region (specialized area in centromere) of chromosomes and align them at the equator of the spindle forming equatorial plate or metaphase plate.

Q7. Write about the stage of telophase of mitosis.

Ans 1: During telophase of mitosis, nuclear membrane and nucleolus reappear, mitotic apparatus disappears and two nucleoli are formed in one cell.

Q8. Differentiate between necrosis and apoptosis.

Ans 1: Necrosis: Cell death due to tissue damage is called necrosis

Ans 2: Apoptosis: Internal programme of events and sequence of morphological changes by which cell commits suicide is collectively called apoptosis.

Q9. Differentiate between malignant and benign tumor.

Ans 1: Malignant tumor: Malignant tumor or cancer divides more rapidly, mostly invade surrounding tissues and enter in circulatory system for spreading into other body parts.

Ans 2: Benign tumor: The small sized local tumor is called benign tumor. Its cells behave like normal cells and are less dangerous.

Q10. What changes occur in a cell during apoptosis?

Ans 1: During apoptosis the cell shrinks and condenses ultimately splitting up thus releasing small membrane bounded apoptotic bodies which are generally phagocytosed by other cells. Intracellular constituents are not released freely in extracellular environment which otherwise might have toxic effect.