Biology (New Book) - 9th Class Biology Urdu Medium Chapter 4 Preparation

Q1. What are teh key events of anaphase in mitosis.

Ans 1: i. Constrictio of spindle fibers towards their respective poles.
ii. Equal separation of sister chromatids of chromosoems.

Q2. Difference between Centromeres and Centrioles

Ans 1: Centromeres:
The centromere is a constriction in chromosome, where chromatids are joind with eachother.

Ans 2: Centrioles:
a pair of centrioles locatd near the anterior surface of the nucleus. It consist of triple of microtublues arrange dto form a hollow cylinder.

Q3. How does meiosis differe from mitosis in terms of chromosomes number.

Ans 1: The number of chromosoems remains the same duirng mitosis.
Example:
A diplid (2n) parent cell will produce two diploid(2n) daughter cells. While during Meiosis the numebr of chromosomes remain half as compare to parent cell
Example: A diploid (2n) parente cell produces four haploid (n) daughter cells.

Q4. Difference between Mitosis and Meiosis

Ans 1: Mitosis:
It takes place in somatic cells
It consists of one division
Crossing over does not take place drung prophase
Chromatides divides at anaphase
Individiual duplicated chromosome align at the metaphase plate during metaphase
Daughter chromosoem mvoe to opposite poles during anaphase
Two dipliud daughter cells are formed.
The number of chromosomes remains censtant.

Ans 2: Meiosis:
It takes place in germ line cells of sex organs.
It consists of two divisions
Crossing over takes place duirng prophase-I
Chromatids does not divide at anaphase-I
Paired homolgous chromosomes align at metaphase plate during metaphase-I
Homolgous chromosomes with two sister chromatids, separate and move to opposite poles during anaphase-I
Four haploid daughter cells are formed.
The Number of chrosomes becomes half in meiosis.
Meiotic product cannot undergo further divisions.

Q5. Difference between Chromatin and Chromosome

Ans 1: Chromatin
In the beginning of prophase. The chromosome are not visibel as they are in the form of fine thread like structures called chromatin

Ans 2: Chromosome:
During prophase the chromatin begins to shorten, thicken and coil by a process called condensation. It results in the appearence of chromosmes.

Q6. Difference chrosomes and chromatids

Ans 1: Chrosome:
The chromatin begins to shorten, tickne and coil by a process called condensatin. It resuts in the appearance of chrosomes it consists of two chromatids.Two chromatids of a chromosome is joined by centromere

Ans 2: Chromatids:
Unseparated reliea of a chromosome is called chromatids

Q7. How does crossing over contribute to genetic variation in meiosis?

Ans 1: During crossing over, exchange of segements of non -sister chromatide os homolgous chromosomes take place. This process leads to recombination of genetic material andincrease genetic diversity.

Q8. What is the role of spindle fibres in mitosis.

Ans 1: During mitosis, spindle fibres ensure the accurate separation of sister chromatids of chromosoemes attache dwith spindle fibres in telephase.

Q9. How is mitosis related to the process of regeneration.

Ans 1: Some animals can regenerate parts of the body For this purpose, they form new cells by carrying out mitosis in the cells of remaning parts.

Q10. Difference between Diploid cells and Haploid cells

Ans 1: Diploidmeans cells have full number of chromosomes
Somatic cells are diploid (2n) cells.
These are responsible for growht and maintenance of the organismsm
These are producred by meiosis.
Diploid number of chromosomes in man in 46

Ans 2: Haploid Cells:
Haploid means cells having half number of chromosomes
Germ line cells are haploid (n) cells.
These are involved in sexual reproduction.
Theser are proeuced by mitosis
The haploid number of chromosomes in man is 23