**MEIOSIS**

**TERMINOLOGY:**

|  |  |
| --- | --- |
| **Autosomes:** | Chromosomes that are not sex chromosome. There are 22 pairs of autosomes in a diploid cell of a human. |
| **Centriole:** | An organelle in the cytoplasm of the cell, which gives rise to spindle fibres during meiosis and mitosis. |
| **Centromere:** | Structure that holds two chromatids together to form a chromosome. |
| **Chiasma**: | Point wherecrossing over takes place between chromatids of the homologous chromosome during prophase 1. |
| **Chromatid:** | It is a single thread of a double stranded chromosome. Two chromatids are joined by a centromere to form a replicated chromosome. |
| **Chromosome:** | A structure made up of two chromatids joined by a centromere that carries the hereditary characteristics within the DNA.  |
| **Diploid number (2n):** | Complete chromosomal number represented in pairs, which is characteristic of an organism.  |
| **Daughter chromosome:** | This refers to each chromatid after it splits from its sister chromatid during anaphase II and is moving towards the poles. |
| **Gametes:** | Haploid cells (n) which contain half the chromosome number of the diploid generation. Ova and sperm cells are the gametes necessary in sexual reproduction where the fusion of the two gametes results in a new individual.  |
| **Gene:** | The unit of heredity transmitted in the chromosome, which controls the development of the characteristics. |
| **Gonosomes:** | Sex chromosomes. There is one pair of sex chromosomes in a diploid cell: the XX chromosomes in females and XY chromosomes in males. |
|  **Haploid number (n):**  | Half the number of chromosomes present in gametes after meiosis has occurred. |
| **Homologous chromosomes** | Maternal and paternal chromosomes having the same shape and size which are paired but differs in genetic material. |
| **Bivalent:** | A pair of homologous chromosomes physically held together by at least one DNA crossover. |
| **Maternal:**  | From the mother / female parent. |
| **Meiosis:** | A process of cell division whereby the chromosomal number is halved for the production of haploid gametes (sperm cells and ova). |
| **Mitosis:** | A process of cell division where the resulting daughter cells have the same chromosomal number as the original parent cell. |
| **Non-disjunction:**   | The homologous chromosomes do not separate due to failure of the centromere to divide during meiosis I & II. The resulting gametes will have either an extra chromosome/copy or another gamete will have one less chromosome.  |
| **Paternal:** | From the father / male parent. |
| **Replicated chromosome:** | This refers to a chromosome as it appears after DNA replication takes place. Hence each replicated chromosome is made up of two chromatids, joined by a centromere. |
| **Somatic cells:** | Normal diploidbody cells. |
| **Spindle fibres:** | Micro-tubules that form during cell division which radiate out from the centrosomes and draw the chromosomes to the poles. |
| **Unreplicated chromosome:** | This refers to a chromosome as it appears before DNA replication takes place. Because of DNA replication all chromosome material is doubled.  |
| **Variation:** | The morphological and physiological differences that can be seen between members of the same species. |
| **Zygote:** | The resulting diploid cell after fertilization has occurred |