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B-Sc-I (Zool Hons)

Paper - I B

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CHROMOSOMES

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(ii) Daughter chromatids have only two granules when they are separating during anaphase.

(iii) Their duplication occurs at some time during mitosis or meiosis.

(iii) The chromosomes of most organisms have only one centromere and are known as monocentric chromosomes.

(iv) Certain chromosomes are provided with two or more centromeres and are known as dicentric and polycentric chromosomes.

(v) In some animals like Ascaris and some insects belonging to homoptera and hemiptera the centromeres remain diffused along the length of the chromosomes.

(vi) In such cases centromere is termed diffused centromere and the chromosome is said to be polycentric.

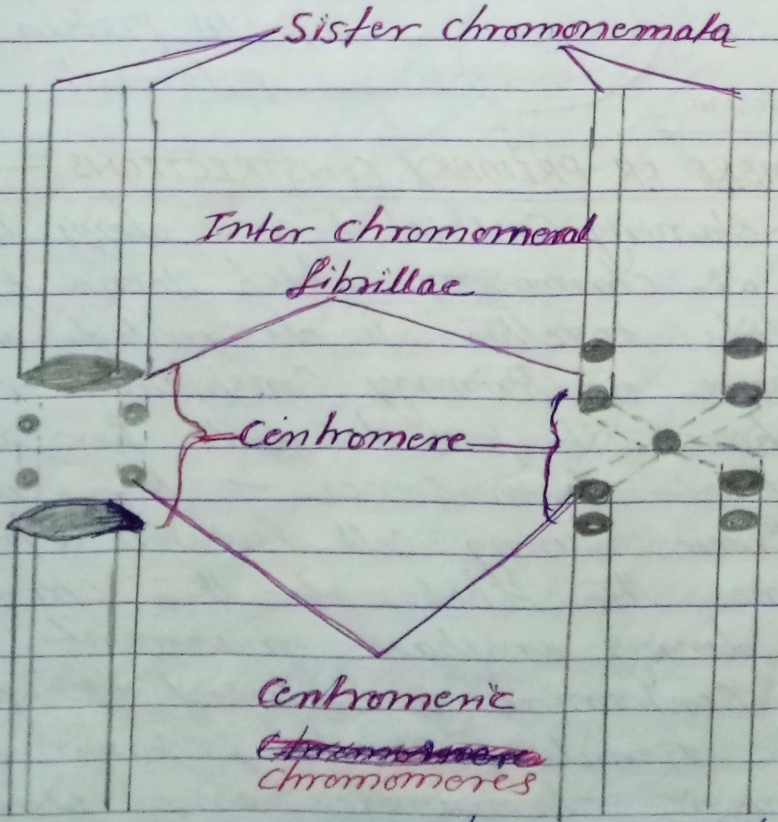

Fig:— Diagrammatic representation of centromere structure.

[B] In Eukaryotic cells, on the basis of sexual and other characters, chromosomes are of two types:—

(1) AUTOSOME:— These chromosomes do not take part in sex determination but necessary for producing somatic characters like number is more than sex chromosome. For example, in human cell out of 46 chromosomes. 44 are autosome.

(2) SEX CHROMOSOME (HETEROSOME):— These chromosomes are necessary for sex determination. In human cells it's number is 2. The larger one is called X-chromosome and the smaller one is called Y-chromosome. In human male, both "XY" are present, but in human female, only 'XX' are present.

[C] On the basis of number of chromosome, it may be of two types:—

(1) HAPLOID → In this type of chromosome, only single partner of pairs are present. Ex:— In human sperm or egg haploid number of chromosome is 23. it is denoted by 'n'. The haploid set of chromosome is called genome.

(2) DIPLOID :→ In this type of chromosome both partner of pairs are present in human somatic cells, The diploid number of chromosome is 46. it is denoted by "2n". The diagram which represent