

Name of the student: *Date:*/...../.....

❖ **Chromosome:**

- Chromosome is a thread-like structure in which a DNA molecule is tightly packaged within the nucleus.
- On the basis of function, chromosome can be divided into two types. Such as—
 - 1) Autosome &
 - 2) Sex chromosome
- In the cells of human body, the number of chromosome is 46, i.e. 23 pairs. Among them 22 pairs or total number of 44 are autosomes and the remaining pair is sex chromosome.
- Autosomes play roles in physiological, embryonic and the formation of body of organisms which have no part in determining sex.

Q. What is autosome?

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- A chromosome concerned in determining the sex of an organism is called sex chromosome.

Q. Write two differences between autosome and sex chromosome.

Autosome	Sex chromosome

- The two sex chromosomes are marked with X and Y. They play significant role in determining sex.
- In women, in the diploid cells both sex chromosomes are X i.e. XX.
- In case of men of the two chromosomes one is X and the other is Y i.e. XY.
- Both the chromosomes are long in structure, rod shaped but chromosome Y is little shorter than the chromosome X.

Q. Write two differences between X and Y chromosome.

X chromosome	Y chromosome

- At the time of development of egg or ovum in woman, meiosis occurs, and every egg possesses an X chromosome. In case of a man at the time of the formation of sperms, half number of sperms contain X chromosome and other half number of sperms contain Y chromosome.
- An egg can be fertilized with either one of the sperm type X or Y.
- Zygote can be having both the chromosomes as type X, or can be having one X and the other one Y.
- The baby, who is born having both the chromosomes as X i.e. XX, will be a..... baby.
- The baby, who is born with a chromosome of type X and the other one is of Y, will be a baby.

Q. Who is responsible for giving birth to a female baby, father or mother? Give logic.

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