1. What is Genomics?
2. Genomics is a branch of molecular biology which deals with function, evolution, structure and mapping of genomes.
3. What is genome?
4. It is a complete set of genes or genetic material present in a cell or an organism.

A haploid set of chromosomes in a gamete or in each cell of a microorganism.

1. What is haploid?
2. A haploid of a cell or nucleus is defined as a single set of unpaired chromosomes.
3. What is gamete?
4. It is a mature male or female cell which is able to unite with opposite sex or gender in sexual reproduction.
5. What is a gene?
6. In general terms, Gene is a unit of heredity, which is transferred from parent to offspring and held to determine some characteristics of the offspring.

In technical terms, Gene is

1. What is DNA?
2. DNA or Deoxyribonucleic acid is the hereditary material in all living organisms. Most DNA is located at nucleus of a cell (nuclear DNA) and some other small amount of DNA is present in mitochondria (mitochondrial DNA or mt-DNA).

The information in DNA is stored as code made of 4 chemical bases. They are Adenine(A), Guanine(G), Cytosine(C) and Thymine(T). The order or the sequence in which these bases are aligned determines the information available for building and maintaining an organism.

These DNA bases pair up with each other to form DNA base pairs. Basically, A pairs with T and C pairs with G. Each base is also attached with a sugar molecule and a phosphate molecule. A base, a phosphate and a sugar molecule together called as a Nucleotide. These nucleotides are arranged in 2 long strands resulting in a spiral structure called Double helix. The structure of a double helix is like a ladder, with base pairs forming ladder’s rungs and sugar and phosphate molecules forming the vertical sidepieces of the ladder.

The important property of DNA is that it can replicate or make copies of itself. The strands in the DNA form a sequence in the double helix for duplicating the sequence of bases. It is important at the time of cell division, where new cell should contain exact copy of the DNA present in the old cell.