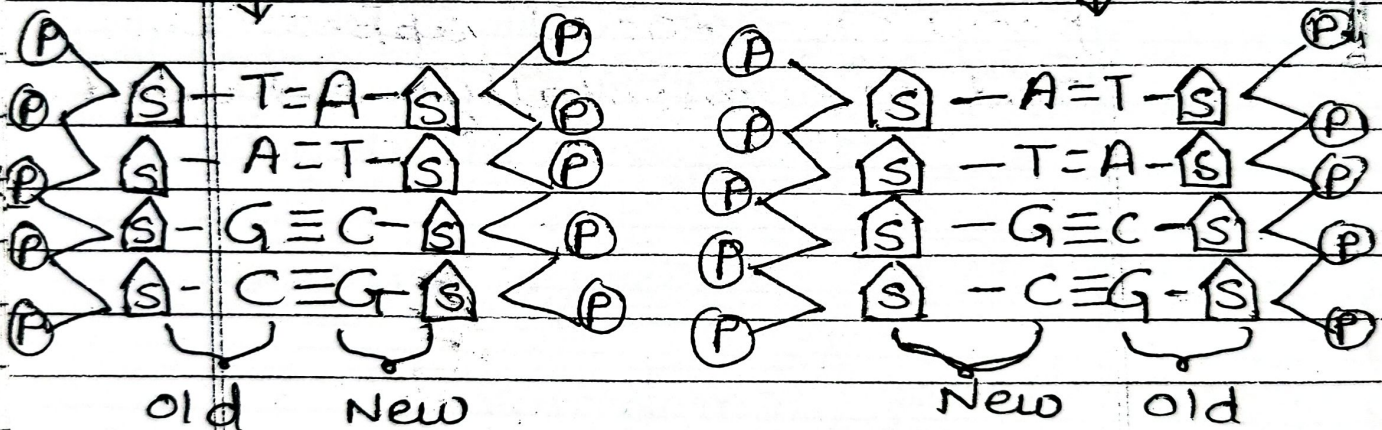
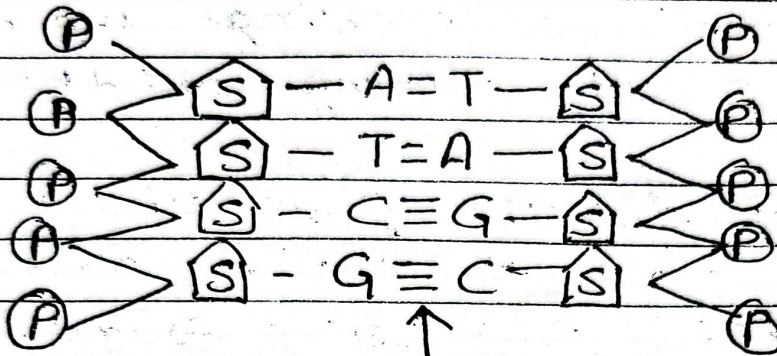


Discuss the Process of DNA Replication.



* Nucleic acid is consisted of DNA & RNA both. The full name of DNA is deoxy ribose nucleic acid. The presence of nucleic acid was first of all explained by Miesher.

Structure :-

DNA is a large molecule and consisted of millions of nucleotides. Each nucleotide is consisted of three components named as -

- a) Sugar
- b) Nitrogenous base
- c) Phosphate group

The DNA molecule is double stranded helical structure which was proposed by Watson and Crick.

The whole DNA molecule is consisted of two strands also known as polynucleotide chains. These chains form a double helical like spiral staircase. Both the strands are antiparallel means if one chain has the polarity $5' \longrightarrow 3'$ Then the other has $3' \longrightarrow 5'$

The sugar phosphate units form the back bone and nitrogenous base form the centre. Both the strands are connected with each other by weak hydrogen bonds present between the nitrogenous bases of two strands.

In the whole structure Adenine forms pairing with thymine with the help of two hydrogen bonds and thymine also forms pairing with adenine with the help of two hydrogen bonds. Similarly cytosine forms pairing with guanine with the help of three hydrogen bonds. Thus the pairing between A and T is complementary and the pairing between C and G is also complementary.

The pairing always takes place between purine and pyrimidine.

In RNA uracil is present in place of thymine. In purine adenine and guanine is included. And in pyrimidine thymine, cytosine and uracil are included.

The double helix takes a complete turn after 3.4 nm. There are 10 base pairs in a complete turn. The width of DNA molecule is 0.20 nm.

The nucleotides in helix are joined together by phosphodiester bonds.