

Write the structures of fragments produced on complete hydrolysis of DNA.

How are they linked in DNA molecule?

Draw a diagram to show pairing of nucleotide bases in double helix of DNA.

Ans.

- i) Complete hydrolysis of DNA gives a sugar,  $\beta$ -D-2-deoxyribose, phosphoric acid, and all four bases – adenine, guanine, cytosine and thymine.
  
- ii) In the DNA molecule, a base is linked to the 1' carbon of all sugar molecules forming a nucleoside. And the 5' carbon of the nucleoside is connected to a phosphate group forming a nucleotide. The 5' end of one nucleotide is connected to 3' end of another nucleotide via a phosphodiester linkage thus forming a strand of nucleotides. The strand is such that, all bases are on one side and phosphate linkages on another side. The bases on one strand are connected to their complementary bases on another strand via hydrogen bonding. This forms a double helix.

iii)

