Biology - 12th Class Biology Chapter 20 Short Questions Preparation

Q1. Define transformation. Name the scientist who worked upon it?

Ans 1: When the DNA of donor is transferred into recipient cell it brings changes into genetic material of the recipient cell, It is called transformation. Fredrick Griffth first of all performed experiments on it.

Q2. Differentiate between heterochromatin and euchromatin.

Ans 1: **Heterochromatin:**Highly condensed part of chromatin is called heterochromatin. This part remains permanently condensed and never be expressed.

Ans 2: **Euchromatin:**The part of chromatin other than heterochromatin is called euchromatin. It condenses only during cell division,when compact packaging facilitates the movement of chromosomes.

Q3. Compare telocentric and acrocentric chromosomes.

Ans 1: **Telocentric Chromosomes:**Telocentric has centromere at one end and chromatid part is present at other end.

Ans 2: **Acrocentric Chromosomes:** Acrocentric has two unequal arms one is short and other is long.

Q4. Define transcription.

Ans 1: Syntheis of mRNA from the DNA is called transcription.It is first step of central dogma.

Q5. Write role of DNA ligase.

Ans 1: The function of DNA ligase is to fill the nicks (small gaps) or to join the Okazaki fragments to make a continuous strand of DNA.

Q6. What is gene?

Ans 1: The sequence of nucleotides that determines the amino acid sequence of a protein is called gene.

Q7. How is newly synthesized mRNA protected after transcription?

Ans 1: A cap and tail is added so that molecule may remain stable during its travelling to cytoplasm. The cap is in the form of 7-methyl GTP where as tail is in the form of poly A tail linked to 3 end of the RNA.These cap and tail protects RNA from action of enzymes.

Q8. What is role of promoter is transcription?

Ans 1: Promoter is responsible for the correct initiation of transcription process.

Q9. How is translation terminated?

Ans 1: When a chain terminating non sense codon is exposed,this non sense codon do not bind any tRNA but they are recognized by release factor,protein that release the newly made polypeptide from the ribosome.

Q10. Define initiation codon. What does it codes for?

Ans 1: Initiation codon is first codon in the process of protein synthesis from where protein synthesis starts.It codes for methionine.