Biology - 12th Class Biology Chapter 20 Short Questions Preparation

Q1. Define genetic code.Give its properties.

Ans 1: Genetic code is combination of three nucleotides,which specify a particular amino acid.

Ans 2: Properties of genetic code are:
i) Genetic code is universal ii) Genetic code is coma less iii) Genetic cod is triplet.

Q2. What is universality of genetic code?

Ans 1: It mean it is same for all the organisms.Because of the universality of codon the genes can be transferred from one organism to another and successfully transcribed and translated in their new host.

Q3. 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.

Q4. What is phosphodiester linkage?

Ans 1: The reaction between the phosphate group of one nucleotide and the hydroxyl group of another is dehydration synthesis,eliminating water molecule and forming a covalent bond that links the two groups is called phosphodiester bond.

Q5. What is function of RNA polymerases in transcription?

Ans 1: The function of RNA polymerases are as

Ans 2: RNA polymerase -i synthesize rRNA
RNA polymerase -ii synthesize mRNA
RNA polymerase -iii synthesize tRNA.

Q6. Differentiate between transcription and translation.

Ans 1: **Transcription:** it is the first step of protein synthesis,in transcription mRNA is synthesized from DNA.

Ans 2: **Translation:** It is the second step of protein synthesis in which DNA message for protein synthesis is decoded and polypeptide chain is synthesized.

Q7. What are nucleotides?

Ans 1: Nucleotide is structural unit of DNA. It composed of nitrogenous base,pentose sugar and phosphate group.

Q8. Define central Dogma.

Ans 1: Central Dogma means all the organisms use the same basic mechanism of gene expression which is referred to as Central Dogma.

Ans 2: Central Dogma consists of two steps
a) Transcription:synthesis of mRNA from DNA
b) Translation: Synthesis of protein from mRNA.

Q9. Differentiate between template and coding stands of DNA.

Ans 1: **Template Strand**: The strand of DNA which is transcribed is called template strand or antisense strand.

Ans 2: **Coding Strand:** The Strand of DNA which is not transcribed is called coding strand or sense strand.

Q10. What is phosphodiester bond? How it is formed?

Ans 1: The reaction between phosphate group of one nucleotide and hydroxyl group of another is a dehydration synthesis,eliminating a water molecule and forming a covalent bond between two groups. This linkage is called a phosphodiester bond.
