

Biology - 12th Class Biology Chapter 20 Short Questions Preparation

Q1. Name types of RNA.

Ans 1: There are three types of RNA, which are named as

Ans 2: i) Transfer RNA or tRNA, ii) Messenger RNA or mRNA, iii) Ribosomal RNA or rRNA.

Q2. Define Mutation.

Ans 1: The sudden change in DNA or gene is called mutation.

Q3. Describe chromosomal aberrations.

Ans 1: Chromosomal aberrations are mega changes which involve presence of an extra chromosome or loss of a chromosome from the diploid number of chromosomes or changes like addition, insertion, inversion and duplication.

Q4. What is one-gene one polypeptide hypothesis?

Ans 1: Beadle and tatum concluded that genes produce their effects by specifying the structure of enzymes and that each gene encodes the structure of one enzyme. They called this relationship one-gene/one-enzyme hypothesis.

Q5. What is the difference between R, and S, type of bacteria?

Ans 1: R Form: The mutant form of streptococcus pneumoniae bacteria, which lacks an enzyme needed to manufacture the polysaccharide coat is called the R form because it forms R colonies on growth medium.

Ans 2: S Form: The normal pathogenic form of streptococcus pneumoniae bacteria is referred as the S form because it forms smooth colonies on a culture dish.

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. 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.

Q8. What is Semi-Conservative Model of DNA Replication?

Ans 1: In semi conservative replication, the two strands of the duplex separate out each acting as a model or mold, along which new nucleotides are arranged thus giving rise to two new duplexes. In this process, by separation of two strands, primary structure has been conserved, whereas the secondary structure has been disrupted.

Q9. Define initiation codon. What does it code for?

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

Q10. Give the functions of the DNA polymerase III.

Ans 1: DNA polymerase III progressively threads the DNA through the enzyme complex, moving at rapid rate, some 1000 nucleotides/second.
