Biology - 12th Class Biology Chapter 20 Short Questions Preparation

Q1. What are Okazaki fragments? Also give their length.

Ans 1: During replication of DNA,one of its strands is discontinuously synthesized in the form of fragments called Okazaki fragments.Its length in eukaryotes is 100 to 200 nucleotides while in prokaryotes it is 1000 to 2000 nucleotides.

Q2. 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.

Q3. Where codon and anticodon are situated?

Ans 1: Codon are situated on mRNA(messenger RNA) while anticodon are situated on tRNA(transfer RNA).

Q4. Define leading and lagging strand of DNA.

Ans 1: Lagging strand is that strand of DNA which is discontinuously synthesized while the strand of DNA which is continuously synthesized is called leading strand.

Q5. 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.

Q6. what is a phosphodiester bond?

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

Q7. What is transcription bubble? How is it formed?

Ans 1: The DNA strand open at specific place where enzyme is attached to the template strand forming transcription bubble.

Q8. 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.

Q9. Enlist initiation codon and non-sense codons.

Ans 1: Initiation codon is Aug and non sense condons are UAA,UAG and UGA.

Q10. What is central Dogma? Give its two steps.

Ans 1: All organisms use the same basic mechanism of reading and expressing the genes,which is often referred to as central dogma.First step of central dogma is transcription and second step is translation (synthesis of protein from mRNA).
