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CHAPTER 9 – MOLECULAR BIOLOGY

1. Which one of the following is not part of the structure of a nucleotide:
   1. Base
   2. Sugar
   3. Phosphate
   4. Protein
2. Which one is not different between the DNA and RNA:
   1. Bases
   2. Sugar
   3. Number of chains
   4. Phosphate
3. Which DNA sequence is complementary to the sequence: ATTGCT:
   1. AUUCGU
   2. TAACGA
   3. TAAGCA
   4. UAACGA
4. The function of tRNA is:
   1. To serve as a template
   2. To bring amino acids to ribosomes
   3. To tear apart ribosomes
   4. To transcribe DNA
5. DNA replication is done through a \_\_\_\_\_\_\_\_\_\_ mechanism:
   1. Semiconservative
   2. Conservative
   3. Dispersive
   4. Semidispersive
6. The correct sequence of the DNA replication steps is:
   1. Strands separation, nucleotide addition, primer synthesis, ligation
   2. Strands separation, primer synthesis, nucleotide addition, ligation
   3. Strands separation, primer synthesis, ligation, nucleotide addition
   4. Strands separation, ligation, primer synthesis, nucleotide addition
7. The enzyme that separate the DNA strands before replication is:
   1. DNA-polymerase
   2. RNA-polymerase
   3. Helicase
   4. Ligase
8. Which one is not a feature of the lagging strand:
   1. It is discontinuous
   2. It is continuous
   3. It contains Okazaki fragments
   4. It contains many primers
9. The damage from the UV (sun) exposure is repaired by:
   1. DNA-polymerase
   2. Nucleotide excision repair proteins
   3. Mismatch repair proteins
   4. Helicase
10. The final product of gene expression is making \_\_\_\_\_\_:
    1. DNA
    2. RNA
    3. Proteins
    4. Sugars
11. Central dogma of biology states that the flow of information is:
    1. DNA è RNA è proteins
    2. RNA è DNA è proteins
    3. RNA è Proteins è DNA
    4. DNA è proteins è RNA
12. Transcription is the process of copying info from DNA into a molecule of \_\_\_\_:
    1. mRNA
    2. tRNA
    3. rRNA
    4. proteins
13. Translation is the process of making \_\_\_\_\_\_\_ from the info in the \_\_\_\_ :
    1. proteins; DNA
    2. proteins; RNA
    3. RNA; DNA
    4. DNA; RNA
14. A promoter is important for:
    1. Initiation
    2. Elongation
    3. Termination
    4. Translation
15. The correct RNA sequence made during gene expression from ATTGGC is:
    1. UAACCG
    2. TAACCG
    3. AUUGGC
    4. UTTGGC
16. Which of the following has the main function to make proteins:
    1. Nucleus
    2. Cytoplasm
    3. Ribosomes
    4. Lysosomes
17. A codon is made of:
    1. A group of 4 nucleotides
    2. A group of 2 nucleotides
    3. A group of 3 nucleotides
    4. Only one nucleotide
18. A codon function is to:
    1. Encodes for an amino acid
    2. Encodes for more amino acids
    3. Encodes for a protein
    4. Encodes for a peptide
19. In RNA splicing:
    1. Exons are removed
    2. Introns are removed
    3. Exons and introns are removed
    4. Exons and introns are joined
20. Which step is not present in PK:
    1. Transcription
    2. Translation
    3. RNA processing
    4. Gene regulation
21. The main enzyme in the Transcription is:
    1. DNA-polymerase
    2. RNA-polymerase
    3. DNA-ligase
    4. Helicase