Practice Multiple Choice questions for DNA

1. The backbone of a nucleic acid strand consists of:
   A) alternating nitrogen bases and phosphate groups linked by amide bonds
   B) alternating sugar and nitrogen bases linked by peptide bonds
   C) alternating sugar and phosphate groups linked by phosphate ester bonds
   D) complimentary bases held together by hydrogen bonds
   E) none of these

2. What is the correct sequence of information transfer?
   A) DNA is transcribed from RNA and then the DNA is translated into a protein
   B) RNA is translated into DNA and then the DNA is transcribed into a protein
   C) RNA is transcribed from DNA and then the RNA is translated into a protein
   D) Proteins are translated into DNA and then RNA is transcribed from

3. Which bases form hydrogen bonds between strands of DNA?
   A) Adenine forms two hydrogen bonds with uracil and cytosine forms three hydrogen bonds with guanine
   B) Adenine forms three hydrogen bonds with uracil and cytosine forms three hydrogen bonds with guanine
   C) Adenine forms three hydrogen bonds with thymine and cytosine forms three hydrogen bonds with guanine
   D) Adenine forms two hydrogen bonds with thymine and cytosine forms three hydrogen bonds with guanine
   E) None of these

4. DNA consists of which bases and sugar?
   A) adenine, cytosine, guanine, thymine, deoxyribose
   B) adenine, cytosine, guanine, uracil, deoxyribose
   C) adenine, cytosine, guanine, thymine, ribose
   D) adenine, cytosine, guanine, uracil, ribose
   E) None of these

5. Which of the following statements is/are correct about RNA?
   I. RNA is always double stranded
   II. tRNA is used to carry a specific amino acid to be incorporated into a protein
   III. mRNA is made in the ribosome and transported to the nucleus
   IV. mRNA is made in the nucleus and transported to the ribosome.
   A) I and III  B) II and IV  C) I, II, and III  D) IV only  E) none of these

6. Choose the best definition of a buffer solution:
   A) contains a weak acid and its conjugate base and resists pH change
   B) contains a weak acid and its conjugate base and resists pH within a range that is close to the pKa
   C) contains an acid and a base and resists pH change
   D) keeps the pH at 7
   E) neutralizes the solution

14. Which one of these is Adenosine monophosphate?

   E) none of these
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