BIO 103

Exam 3: Chapter 12

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1. Which of the following statements about DNA and RNA is false?
   1. Purines only bond with pyrimidines
   2. Adenine only bonds with thyamine
   3. Cytosine only bonds with guanine
   4. DNA is double stranded and RNA is single stranded
2. After replication is finished the molecule has one old strand and one new strand of DNA, this is known as what?
   1. Complimentary base pairing
   2. Semi-conservative
   3. Replication bubbles
   4. Replication
3. Replication involves three steps, which of the following is not a step?
   1. Unwinding
   2. Complimentary base pairing
   3. Joining
   4. All are steps
4. During the unwinding stage in replication…
   1. DNA Helicase breaks apart the helix
   2. The hydrogen bonds are broken
   3. The nitrogen bases are exposed
   4. All of the above
5. What enzyme is used in joining the two strands of DNA together?
   1. DNA helicase
   2. DNA polymerase
   3. RNA helicase
   4. RNA polymerase
6. There are 2 Pyrimidines.
   1. True b. False
7. If given the following strand of DNA, what would the new strand of RNA look like?

A T A T T G C C G A C T G A C G

1. G C G C C A T U U A G T C A G T
2. T A T A A C G G C T G A C T G C
3. U A U A A C G G C U G A C U G C
4. None of the above
5. Using the strand of DNA from #17 and using the codon chart from your notes, give the first three amino acids from the new RNA strand.
   1. Tyrosine, glutamine, arginine
   2. Tyrosine, asparagines, glycine
   3. Asparagines, tyrosine, glycine
   4. Start, tyrosine, asparagines
6. Which of the following is not a class of RNA?
7. rRNA
8. bRNA
9. mRNA
10. tRNA
11. What two nucleotides have a double carbon ring?
    1. Adenine/guanine
    2. Thyamine/adenine
    3. Cytosine/thyamine
    4. Guanine/thyamine
12. What two nucleotides have a single carbon ring?
    1. Adenine/guanine
    2. thyamine/adenine
    3. Cytosine/thyamine
    4. guanine/thyamine
13. There are 3 purines.
    1. True b. False
14. Which of the following pairs are not correctly matched up for complimentary base pairing?
    1. Adenine/thyamine
    2. Adenine/uricil
    3. Cytosine/guanine
    4. Adenine/guanine
15. DNA is a polymer of …
    1. Amino acids
    2. Lipids
    3. Nucleotides
    4. None of the above
16. Which of the following is not a nucleotide in RNA?
    1. Adenine
    2. Guanine
    3. Uricil
    4. Thyamine
17. Frederick Griffith said that bacterial cells can be either …..
    1. Capsulated or insulated
    2. Noncapsulated or virulated
    3. Noncapsulated or capsulated
    4. Good or bad
18. Which of the following is not a step in translation?
    1. Initiation
    2. Elongation
    3. Translocation
    4. Termination
19. The substitution of a base or a change in one specific codon is what type of mutation?
    1. Point b. Framshift
20. The addition or deletion of a base that results in a completely new sequence of codons is what type of mutation?
    1. Point b. Framshift