DNA 16-20 CLICKERS

1 Which enzyme found in retroviruses like HIV is used to change an RNA message into a complementary   
 DNA strand?

A DNA ligase

B restriction endonuclease

C Taq polymerase

D reverse transcriptase

E primase

2 The viral lifecycle in which a bacteriophage injects its DNA into a bacteria, uses the cell's machinery to   
 make new phage, then bursts the host cell is called the

A lytic cycle

B lysogenic cycle

C Krebs cycle

D Calvin cycle

3 Arrange the following in order used in replication.  
 1-PRIMASE 2-HELICASE 3- single stranded binding proteins 4-DNA POLYMERASE

A 1,2,3,4

B 1,3,2,4

C 2,3,1,4

D 2,3,4,1

E 2,4,3,1

4 After initiation starts translation, new amino acids enter the ribosome at which site?

A) A B) P C) E D) operator

5 ALL of the following are limitations of DNA polymerase EXCEPT

A It can only add nucleotides to the 3' end of an existing strand

B It can't start a new strand by itself

C It can only replicate the leading strand, a different enzyme must copy the lagging strand.

D It results in the loss of segments of DNA at the ends of the chromosomes every time it copies   
 the DNA.

6 In a nucleosome, the DNA is wrapped around

A proteasomes

B histones

C siRNA's

D ubiquitin

7 Which of the following is a difficulty in getting prokaryotic cells to express eukaryotic genes?

A The genetic code differs because prokaryotes use uracil instead of thymine in DNA

B The ribosomes of prokaryotes are not large enough to handle long eukaryotic messages

C Prokaryotic cells cannot process introns because their cells don't have them

D The RNA splicing enzymes of bacteria work differently than those from eukaryotes

8 GFP is used as a genetic tool because it can

A make many copies of a small amount of DNA

B be used as a marker to tell which bacteria contain recombinant plasmids

C mark "sticky ends" for endonucleases

D make bacteria resistant to antibiotics

9 Use the mRNA codon table. A mutation that changes a codon from UGC to UGA is an example of a   
 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mutation.

A missence

B nonsense

C frameshift

D transduction

10 Which of the following is true about the lac operon?

A The addition of lactose turns the lac operon off.

B The repressor is normally inactive without lactose.

C Lactose binds to the repressor which turns the lac operon on.

D The lac repressor binds to RNA polymerase to turn on the genes.

11 Which of the following is NOT a potential control mechanisms for regulation of gene expression in   
 eukaryotes?

A degradation of RNA

B transport of mRNA from nucleus

C lac operon

D actylation of histones

E enhancer regions

12 The action of which enzyme is ensures that chromosomes do not decrease in length with each replication?

A DNA polymerase

B DNA ligase

C primase

D telomerase

13 Meselson and Stahl's experiment with labeled nucleotides provided evidence that DNA replicates using   
 which method?

A conservative

B semi-conservative

C dispersive

14 If an operon codes for enzymes for making an essential amino acid and is regulated like the trp operon,   
 then

A the presence of the amino acid activates the repressor

B the operon is inducible

C the presence of the amino acid turns on the genes

D the repressor is active in the absence of the amino acid

15 Which of the following does NOT occur during RNA processing in the nucleus of eukaryotes?

A removal of introns

B addition of a string of adenine nucleotides to the 3' end

C addition of a guanine cap to the 5' end

D ligation of exons

E addition of methyl groups to certain RNA nucleotides

16 Genetic recombination in bacteria that results from a virus transferring new bacterial genes along with   
 its viral genome when it infects a new cell is called

A conjugation

B transformation

C transcription

D transduction

17 siRNA's are "death tags" that mark \_\_\_\_\_\_\_\_\_\_\_\_\_\_ that should be destroyed.

A proteins

B thymine dimers

C mRNA's

D introns

18 What is the relationship during gel electrophoresis between migration distance and fragment size?

A Migration distance is independent of DNA fragment size.

B Longer DNA fragments travel a greater distance than shorter fragments.

C Migration distance is inversely proportional to fragment size.

D migration distance is directly proportional to fragment size

E the heavier the fragment, the greater the migration distance.

19 Which of the following is NOT a potential control mechanisms for regulation of gene expression in   
 eukaryotes?

A degradation of RNA

B transport of mRNA from nucleus

C negative control of operons

D acetylation of histones

E enhancer regions

20 Okazaki fragments

A form when the leading strand is replicated

B are copied from the coding strand

C are joined by primase

D form when the lagging strand is replicated

Answer Key : DNA 16-20

**Question:** **Answer**

1 D

2 A

3 C

4 A

5 C

6 B

7 C

8 B

9 B

10 C

11 C

12 D

13 B

14 A

15 E

16 D

17 C

18 A

19 C

20 D

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