

Time left 0:32:58

Question 41

Not yet answered

Marked out of 1.00

Flag question

In _____, the parent strands of DNA, each of newly synthesized DNA double strands conserves half of the original DNA molecule.

- a. Semi-conservative replication
- b. Conservative replication
- c. Translation
- d. RNA translation
- e. A and B

Clear my choice

Question 44

Not yet answered

Marked out of 1.00

Flag question

Liver cells are called _____.

- a. Ribosomes
- b. Gametes
- c. Germ cells
- d. Somatic cells
- e. Mitochondria

Clear my choice

Question 45

The difference between leading and lagging strands is that

e. A and B

Question **42**

Not yet answered

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Flag question

Which of the following is NOT a component of DNA

- a. Pyrimidines such as uracil.
- b. Purines such as adenine.
- c. Pyrimidines such as guanine.
- d. Deoxyribose sugar.
- e. A phosphate group.
- f. 'A' and 'C'

[Clear my choice](#)

Question 45
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stion

The difference between leading and lagging strands is that

- a. There is no clear difference between leading and lagging strands.
- b. the leading strand is synthesized by adding nucleotides to the 3' end of the growing strand, and the lagging strand is synthesized by adding nucleotides to the 5' end.
- c. the lagging strand is synthesized continuously, whereas the leading strand is synthesized in short fragments that are ultimately stitched together.
- d. the leading strand is synthesized in the same direction as the movement of the replication fork, and the lagging strand is synthesized in the opposite direction.

Clear my choice

g. All of the above except A

Question 35
Not yet answered
Marked out of 1.00
Flag question

A frameshift mutation can be caused by ____.

- a. 4 bases being inserted
- b. 2 bases being deleted
- c. 3 nucleotides being added
- d. 3 nucleotides being removed
- e. A and B

[Clear my choice](#)

• e. All of the above
Clear my choice

Question 33
Not yet answered
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Flag question

The double helix of DNA in the B-form is stabilized by:

- a. Hydrogen bonding between the phosphate groups between the 2 strands
- b. Hydrogen bonds between the sugars of each strand
- c. Covalent base-stacking interactions between adjacent bases in the same strand
- d. Covalent bonds between 3' end of one strand and the 5' end of the opposite strand
- e. C and D
- f. None of the above

Clear my choice

Question 34
Not yet answered

Which of the following statements about mitochondrial DNA is INCORRECT?

- e. All of the above
- Clear my choice

Question 18
Not yet answered
Marked out of 1.00
Flag question

Which of the following sequence of the DNA strand is the least stable?

- a. CCTAGATCTGAGAG
- b. CCTA**T**ACCGTAGAC
- c. GGATCTGGATCTAT
- d. GAATCTGGATCTAA

Clear my choice

Question 19

What is correct regarding the messenger RNA?

Question 2

Which of the following statements about DNA packaging into chromosomes is correct?

- a. The DNA double helix wrapped 4 times around the core histones to produce a nucleosome
- b. The H1 histone is a part of the core histone
- c. The 300-nm chromatin is created by interaction of 10-nm fiber and the nuclear matrix
- d. The radial loops of the 300-nm chromatin are generated by the attachment of looped domains to the nuclear matrix via DNA sequences called MARs.
- e. C and D
- f. All of the above are correct

Clear my choice

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Finish atten

Clear my choice

Question 14
Not yet answered
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Flag question

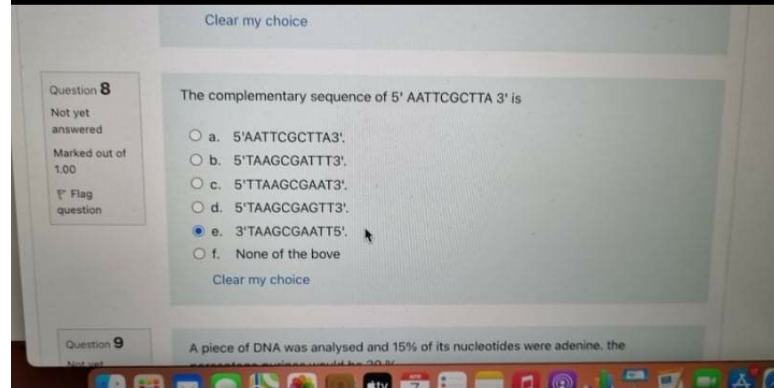
The DNA consists of nucleotides linked to each other by ____.

- a. phosphodiester bonds between the 3' carbon of one nucleotide and the 5' carbon of the following nucleotide in 5' to 3' direction
- b. phosphodiester bonds between the 5' carbon of one nucleotide and the 3' carbon of the following nucleotide in 5' to 3' direction
- c. phosphodiester bonds between the 2' carbon of one nucleotide and the 5' carbon of the following nucleotide in 5' to 3' direction
- d. glycosidic bonds

Clear my choice

Question 15

One of Chargaff's findings states that



Clear my choice

Question 23
Not yet answered
Marked out of 1.00
Flag question

Where would you most likely find chromatin in the 30 nm fibers conformation?

- a. Heterochromatin
- b. Actively transcribed chromatin
- c. Silenced chromatin
- d. Euchromatin
- e. A and B
- f. B and D

Clear my choice

Question 24

_____ is repeating structural unit within eukaryotic chromatin which are

e. All of the above
Clear my choice

Question 33
Not yet answered
Marked out of 1.00
Flag question

The double helix of DNA in the B-form is stabilized by:

- a. Hydrogen bonding between the phosphate groups between the 2 strands
- b. Hydrogen bonds between the sugars of each strand
- c. Covalent base-stacking interactions between adjacent bases in the same strand
- d. Covalent bonds between 3' end of one strand and the 5' end of the opposite strand
- e. C and D
- f. None of the above

Clear my choice

Question 34
Not yet answered

Which of the following statements about mitochondrial DNA is INCORRECT?

None of the above

Clear my choice

25

Somatic cell nuclei and germ cell nuclei differ in their enzyme content. Which of the following enzymes make the germ cell "immortal"?

- a. Telomerase
- b. Endonuclease
- c. RNA Polymerase
- d. Ligase
- e. DNA Polymerase

Clear my choice

Clear my choice

_____ is repeating structural unit within eukaryotic chromatin which are composed of RNA and histone proteins

- a. Repetitive DNA
- b. Nucleosome
- c. Euchromatin
- d. Heterochromatin
- e. None of the above

Clear my choice

False

Which of the following activities of DNA polymerase I allows it to remove RNA primers during lagging strand synthesis?

- a. 3' to 5' polymerase activity
- b. 5' to 3' polymerase activity
- c. 3' to 5' exonuclease activity
- d. 5' to 3' exonuclease activity

Clear my choice

Clear my choice

Question 34

Not yet answered

Marked out of 1.00

Flag question

Which of the following statements about mitochondrial DNA is INCORRECT?

- a. The mitochondrial genome encodes all of the mitochondrial proteins
- b. Mitochondrial DNA is usually a circular, double-stranded DNA molecule that is not packaged with histones.
- c. Mitochondrial genome has no introns but few noncoding nucleotides between the genes
- d. Mitochondrial genome has very little repetitive DNA
- e. A and D
- f. B and D
- g. All of the above except A

Clear my choice

Which of the following is not a true statement comparing prokaryotic and eukaryotic DNA replication?

- a. Both eukaryotic and prokaryotic DNA polymerases require RNA primers made by primase.
- b. DNA replication always occurs in the nucleus.
- c. Eukaryotic DNA replication involves more polymerases than prokaryotic replication.
- d. Eukaryotic DNA replication requires multiple origins of replication, while prokaryotic replication uses a single origin of replication.

Clear my choice

Bacterial plasmids are circular piece of DNA, encode for proteins that are not essential to bacterial growth, may confer resistance to antibiotics.

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e. All of the above
Clear my choice

Question 18
Not yet
answered
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question

Which of the following sequence of the DNA strand is the least stable?

- a. CCTAGATCTGAGAG
- b. CCTATACCGTAGAC
- c. GGATCTGGATCTAT
- d. GAATCTGGATCTAA

Clear my choice

Question 19

What is correct regarding the messenger RNA?



Clear my choice

Question 7
Not yet answered
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Flag question

Which of the following statements about euchromatin is correct?

- a. Euchromatin is lightly packed and available for transcription.
- b. Euchromatin is tightly packed and available for transcription.
- c. Euchromatin represents 10% of chromosome
- d. Euchromatin replicate late S phase
- e. Concentrated at the both ends of the chromosome
- f. "B and E"
- g. All of the above except A

Clear my choice

Question 4
Not yet answered
Marked out of 3
Flag question

Which of the following sets of materials are required at all by both eukaryotes and prokaryotes for replication?

- a. double-stranded DNA, histone modification, 4 kinds of dNTPs, primers, origin(s) of replication
- b. topoisomerases, telomerase, polymerases
- c. G-C rich regions, polymerases, origin origin(s) of replication
- d. nucleosome loosening, 4 dNTPs, 4 rNTPs
- e. None of the above

Clear my choice

Question 5
Not yet answered

The secondary structure of the tRNA is _____

False

Which of the following activities of DNA polymerase I allows it to remove RNA primers during lagging strand synthesis?

- a. 3' to 5' polymerase activity
- b. 5' to 3' polymerase activity
- c. 3' to 5' exonuclease activity
- d. 5' to 3' exonuclease activity

Clear my choice

Clear my choice

Question 34
Not yet
answered
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question

Which of the following statements about mitochondrial DNA is INCORRECT?

- a. The mitochondrial genome encodes all of the mitochondrial proteins
- b. Mitochondrial DNA is usually a circular, double-stranded DNA molecule that is not packaged with histones.
- c. Mitochondrial genome has no introns but few noncoding nucleotides between the genes
- d. Mitochondrial genome has very little repetitive DNA
- e. A and D
- f. B and D
- g. All of the above except A

Clear my choice

Question 45
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The difference between leading and lagging strands is that

- a. There is no clear difference between leading and lagging strands.
- b. the leading strand is synthesized by adding nucleotides to the 3' end of the growing strand, and the lagging strand is synthesized by adding nucleotides to the 5' end.
- c. the lagging strand is synthesized continuously, whereas the leading strand is synthesized in short fragments that are ultimately stitched together.
- d. the leading strand is synthesized in the same direction as the movement of the replication fork, and the lagging strand is synthesized in the opposite direction.

Clear my choice

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Question 41

Not yet
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Time left 0:32:58

In _____, the parent strands of DNA, each of newly synthesized DNA double strands conserves half of the original DNA molecule.

- a. Semi-conservative replication
- b. Conservative replication
- c. Translation
- d. RNA translation
- e. A and B

Clear my choice

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- d. Ligase
 - e. DNA Polymerase
- Clear my choice

Question 26
Not yet answered
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Flag question

snoRNA are small nucleolar RNA, found in nucleolus, involved in modification of mRNA

- Select one:
- True
 - False

Question 27

Which of the following activities of DNA polymerase I allows it to remove RNA primers

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28

What is the class of enzymes that is required for unwinding the eukaryotic DNA at the replication fork?

- a. DNA helicase
- b. DNA B
- c. Mcm2-7
- d. Topoisomerase
- e. 'B', 'C' and 'D'
- f. 'A' and 'C'

Clear my choice

c. 3' to 5' exonuclease activity
 d. 5' to 3' exonuclease activity

Question 28

What is the class of enzymes that is required for unwinding the eukaryotic DNA at the replication fork?

- a. DNA helicase
- b. DNA B
- c. Mcm2-7
- d. Topoisomerase
- e. 'B', 'C' and 'D'
- f. 'A' and 'C'

Clear my choice

Question 29

nucleosides contain a nitrogenous base, a pentose, and at least one phosphate while

- e. 'B', 'C' and 'D'
 - f. 'A' and 'C'
- Clear my choice

Question 29
Not answered
Marked out of 1
Flag question

nucleosides contain a nitrogenous base, a pentose, and at least one phosphate while nucleotides contain a nitrogenous base, a pentose, but missing the phosphate

Select one:

- True
- False

Question 30
Which of the following are the proteins that regulate the cell cycle and show activity throughout the cell cycle?

Flag question

Question 30
Not yet answered
Marked out of 1.00
Flag question

False

Which of the following are the proteins that regulate the cell cycle and show fluctuations in their concentration throughout the cell cycle?

- a. Cyclins
- b. Growth factors
- c. Enzymes
- d. Second messengers
- e. Protein kinases

[Clear my choice](#)

... is an example of facultative heterochromatin

e. Protein kinases

Clear my choice

1

X-chromosome inactivation is an example of facultative heterochromatin

Select one:

True

False

32

Mitochondrial diseases are a clinically heterogeneous group of disorders. If the

Question 32
Not answered
Marked out of 1.00
Flag question

Mitochondrial diseases are a clinically heterogeneous group of disorders. If the causative genes is located in the nuclear genome, it may be inherited:

- a. In recessive manner
- b. In dominant manner
- c. By maternal inheritance
- d. A and B
- e. All of the above

Clear my choice

- d. B and C
- e. A and B

39

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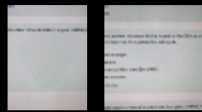
Large multimeric protein structure that is bound to the DNA at origins of replication in eukaryotic chromosomes throughout the cell cycle.

- a. replication origin
- b. telomerase
- c. origin recognition complex (ORC)
- d. histone proteins

Clear my choice

40

What is the estimated number of nucleotides in a gene (mRNA) that code for 60



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Question 36
Not yet answered
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Flag question

According to alternative types of double helices, the predominant form of DNA found in living cells.

- a. The B form
- b. The A form
- c. The Z form
- d. A and B
- e. B and C

Clear my choice

Question 37
Why is an RNA primer considered essential during DNA synthesis by DNA polymerase

○ d. histone proteins

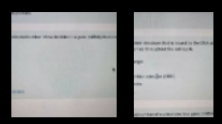
40

What is the estimated number of nucleotides in a gene (mRNA) that code for 60 amino acids

- a. 180
- b. 20
- c. 183
- d. 181
- e. 177

Clear my choice

Next page



e. All of the above
Clear my choice

Question 33
Not yet answered
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Flag question

The double helix of DNA in the B-form is stabilized by:

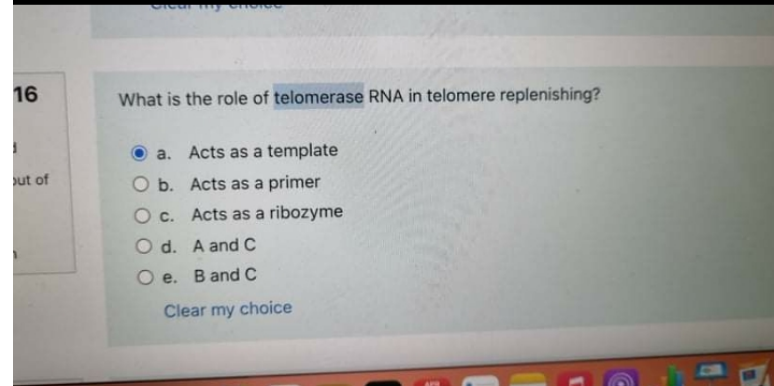
- a. Hydrogen bonding between the phosphate groups between the 2 strands
 - b. Hydrogen bonds between the sugars of each strand
 - c. Covalent base-stacking interactions between adjacent bases in the same strand
 - d. Covalent bonds between 3' end of one strand and the 5' end of the opposite strand
 - e. C and D
 - f. None of the above
- Clear my choice

Question 34
Not yet answered

Which of the following statements about mitochondrial DNA is INCORRECT?



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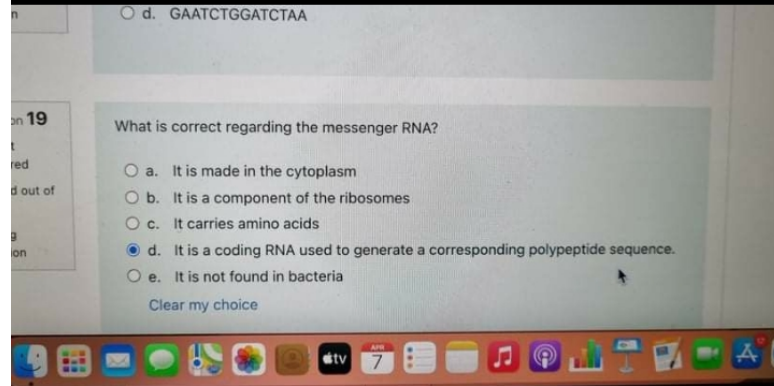


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During DNA replication, the complementary strand is always built from _____

- a. the end to the middle
- b. the 3' to 5' end, nucleotides are added at the 5' end of the growing sequence
- c. the 5' to 3' end, nucleotides are added at the 5' end of the growing sequence
- d. the replication fork to the end, nucleotides are added at then 5' end of the growing sequence
- e. None of the above

Clear my choice

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21.04.07 الساعة 4:08 م





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Clear my choice

Question 23

Not yet answered

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Flag question

Where would you most likely find chromatin in the 30 nm fibers conformation?

- a. Heterochromatin
- b. Actively transcribed chromatin
- c. Silenced chromatin
- d. Euchromatin
- e. A and B
- f. B and D

Clear my choice

Question 24

_____ is repeating structural unit within eukaryotic chromatin which are

السلام عليكم ٢٢

21.04.07 الساعة 4:09 م





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Clear my choice

_____ is repeating structural unit within eukaryotic chromatin which are composed of RNA and histone proteins

- a. Repetitive DNA
- b. Nucleosome
- c. Euchromatin
- d. Heterochromatin
- e. None of the above

Clear my choice

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21.04.07 الساعة 4:09 م





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- d. Ligase
 - e. DNA Polymerase
- Clear my choice

Question 26
Not yet answered
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Flag question

snoRNA are small nucleolar RNA, found in nucleolus, involved in modification of mRNA

Select one:

- True
- False

Question 27

Which of the following activities of DNA polymerase I allows it to remove RNA primers

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28

What is the class of enzymes that is required for unwinding the eukaryotic DNA at the replication fork?

- a. DNA helicase
- b. DNA B
- c. Mcm2-7
- d. Topoisomerase
- e. 'B', 'C' and 'D'
- f. 'A' and 'C'

Clear my choice

c. 3' to 5' exonuclease activity
d. 5' to 3' exonuclease activity

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21.04.07 الساعة 4:11 م





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e. 'B', 'C' and 'D'

f. 'A' and 'C'

Clear my choice

Question 29
Not yet answered
Marked out of 1
Flag question

nucleosides contain a nitrogenous base, a pentose, and at least one phosphate while nucleotides contain a nitrogenous base, a pentose, but missing the phosphate

Select one:

True

False

Question 30

Which of the following are the proteins that regulate the cell cycle and show activity throughout the cell cycle?

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الساعة 4:12 م 21.04.07





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e. Protein kinases

Clear my choice

31

X-chromosome inactivation is an example of facultative heterochromatin

Select one:

True

False

32

Mitochondrial diseases are a clinically heterogeneous group of disorders. If the

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Question 32

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Mitochondrial diseases are a clinically heterogeneous group of disorders. If the causative genes is located in the nuclear genome, it may be inherited:

- a. In recessive manner
- b. In dominant manner
- c. By maternal inheritance
- d. A and B
- e. All of the above

Clear my choice

السلام عليكم ٢٢
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Flag question

False

Question 30
Not yet answered
Marked out of 1.00
Flag question

Which of the following are the proteins that regulate the cell cycle and show fluctuations in their concentration throughout the cell cycle?

- a. Cyclins
- b. Growth factors
- c. Enzymes
- d. Second messengers
- e. Protein kinases

[Clear my choice](#)

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Question 28
What is the class of enzymes that is required for unwinding the eukaryotic DNA at the replication fork?

- a. DNA helicase
- b. DNA B
- c. Mcm2-7
- d. Topoisomerase
- e. 'B', 'C' and 'D'
- f. 'A' and 'C'

Clear my choice

Question 29

nucleosides contain a nitrogenous base, a pentose, and at least one phosphate while

السلام عليكم ٢٢

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e. None of the above
Clear my choice

Question 22
Not yet answered
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Flag question

Introns

- a. Are frequently present in prokaryotic genes but are rare in eukaryotic genes.
 - b. Are removed after RNA synthesis.
 - c. Do not code for amino acid sequences
 - d. Can be found many times within a single gene.
 - e. B and D
 - f. All of the above except A are correct
- Clear my choice

Question 23

Where would you most likely find chromatin in the 30 nm fibers conformation?

السلام عليكم ٢٢
21.04.07 الساعة 4:08 م





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Question 25
Not answered
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Flag question

Somatic cell nuclei and germ cell nuclei differ in their enzyme content. Which of the following enzymes make the germ cell "immortal"?

- a. Telomerase
- b. Endonuclease
- c. RNA Polymerase
- d. Ligase
- e. DNA Polymerase

Clear my choice

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Clear my choice

Question 20

What is the function of DNA polymerase III?

- a. to rejoin the two DNA strands (one new and one old) after replication
- b. to add nucleotides to the end of a growing DNA strand
- c. to degrade damaged DNA molecules
- d. to unwind the DNA helix during replication
- e. to seal together the broken ends of DNA strands

Clear my choice

السلام عليكم ٢٢
21.04.07 الساعة 4:07 م



g. All of the above except A

Question 35
Not yet answered
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Flag question

A frameshift mutation can be caused by ____.

- a. 4 bases being inserted
- b. 2 bases being deleted
- c. 3 nucleotides being added
- d. 3 nucleotides being removed
- e. A and B

[Clear my choice](#)

e. B and C

Question 37

Not yet answered

Marked out of 1.00

Flag question

Why is an RNA primer considered essential during DNA synthesis by DNA polymerase III?

- a. There is no particular reason, that is simply the observation.
- b. The enzyme requires a free 3'-PO4 group to initiate replication
- c. The enzyme requires a free 5'-PO4 group to initiate replication
- d. The enzyme requires a free 5'-OH group to initiate replication
- e. The enzyme requires a free 3'-OH group to initiate replication

Clear my choice

Question 38

Not yet answered

RNA is less stable chemically under alkaline conditions than DNA because ____.



- d. The enzyme requires a free 5'-OH group to initiate replication
- e. The enzyme requires a free 3'-OH group to initiate replication

Question 38
Not yet answered
Marked out of 1.00
Flag question

RNA is less stable chemically under alkaline conditions than DNA because___

- a. RNA is used ribose sugar instead of pentose
- b. The 2nd carbon in RNA contains OH (hydroxyl) group which makes RNA unstable
- c. Uracil at carbon 2nd carbon in RNA is more reactive than thymine in DNA
- d. B and C
- e. A and B

Clear my choice

Question 39
Large multimeric protein structure that is bound to the DNA at origins of replication in