

Name:

Subjects: Molecular Biology

Time: 60 min

Date: Nov.9th.2023

Grade:

Q1/ Fill in the blanks with the suitable (word)s. (8 M)

1. Solenoid is composed of
2. The function of telomeres include
3. When environmental factors affect DNA, this is called
4. DNA polymerase I performs important functions during DNA replication which can be
5. tRNA can bind to specific proteins called which are involved in apoptosis.
6. Phosphodiester linkage within DNA structure are located
7. Hershey and Chase used phage to prove the DNA is genetic material and the got benefit from differences between
8. Gyrase enzyme functions in

Q2/ Give the reason(s) for the following statements. (4 M)

1. RNA is un-stable comparing to DNA.
2. Eukaryotic DNA replication requires multiple origin of replication.

Q3/ Define the following: (4 M)

Macromolecules, oriC, SSBPs, Sliding clamps

Q4/ Indicate True or False, then CORRECT the False one if there is any. (8 M)

1. One DNA strand is always has series sequence of purines.
2. A primer sequence on leading strand is, 5'-ACCTAGGGCC-3', so it becomes complementary to a DNA strand., 3'-TGGATCCCGG-5'.
3. Griffith's experiment included the discovery of transformation of genetic materials between bacterial strains of same genus.
4. DNA was first identified by Friedrich Miescher.
5. DNA polymerase III is the enzyme which is responsible for replicating most parts of the DNA.
6. When living R type of bacteria were mixed with S type extract containing mutated DNase, no transformation occur.
7. mRNA has a catalytic activity where it catalyzes the formation of peptide bonds between amino acids.
8. Euchromatin is transcriptionally active.

Q5/ Explain the formation of gaps and nicks during DNA replication. (6 M)

BEST LUCK

Dr. Trefa Salih Mohamad