



Q1: Explain the negative Regulation of Transcription in prokaryotic by: (10 marks)

Define, arrangement of responsible gene, role of Repressor protein, with (draw an example)

Q2: complete the following sentences with suitable word or phrase (only 3): (5 marks)

Plasmids are physically separated from a chromosomal DNA and can replicate .....  
..... mutations is the new codon translated to the same amino acid.

In bacteria, the two replication forks proceed in opposite directions from the origin until they meet at a  
called .....

The replication terminus region containing multiple copies of a 20bp sequence called ..... sequences  
Transcription.....

Pribnow box it contain ..... located 8 to 10 nucleotide to the left of transcriptional start site

Q3: (10 marks)

A: Give the benefit for the following:

1. Helicases
2. DNA polymerase IV and DNA polymerase V
3. EF-G
4. TUS
5. P site in small subunit of Ribosomes

B: Enumerate one of the following:

1. The Functions of plasmids
2. DNA polymerases associated with *E. coli* DNA replication

Q4: Explain the differences between Prokaryotic and Eukaryotic translation according to: (10 marks)  
(Ribosome size, Site of transcription & translation, speed of translation, elongation factor, life span of mRNA)

Q5: Answer by true or false the following sentences. (Only five) (5 mark)

1. Bacterial genes are haploid
2. Transduction required extra chromosomal elements called Plasmids.
3. One strand of DNA is synthesized continuously of the replication fork called lagging strand.
4. RNA polymerase require 3 → 5 exonuclease activity for polymerization.
5. Transformation works best when both donor and recipient are closely related
6. Transition is the replacement of a Purine base with another Purine

Best Wishes

Dean:

Department head:

Examiner:

Dr. Nabeel A.A. Al-radha

Dr. Mohammed Al-Askeri

Dr. Ghasoun M