



06. 06. 2017

((Assessment of the final exam for the 2nd semester))

Academic year 2016-2017

45

Q1: Answer Four Branches

(8 marks)

- A- What is the role of auto-transporters in bacterial secretion?
- B- What are two differences between lactose operon and arabinose operon structures?
- C- Describe hunger signal in bacteria cell.
- D- Explain Pribnow box, with drawing.
- E- What is the episome? forth

Q2: Answer All Branches

(8 marks)

- A- What is SOS repair during bacterial DNA replication?
- B- Illustrate transcriptional terminators in prokaryotes, with drawing.

Q3: Answer Two Branches

(8 marks)

- A- Show that DNA polymerase activity for the fidelity of DNA replication.
- B- It is only one possible to alter the linking number in a circular DNA molecule *in vivo*, explain.
- C- Explain: 1- Wobble phenomenon 2 – Function of aminoacyl tRNA synthetases.

Q4: Answer All Branches

(8 marks)

- A- How can the bacterial cells are dividing faster than the chromosome replicates and still allow every daughter cell to acquire a complete copy of the chromosome?
- B- Describe positive and negative control of arabinose operon, with drawing.

Q5: Answer One Branch

(8 marks)

- A- What are probabilities of single base changes on UUA codes for leucine? (Hint answer:, Ile:AUA, Val: GUA, Phe:UUU or UUC Ser:UCA leu:UUG, CUA stop:UAA or UGA)
- B- Explain the general secretory pathway in bacteria.

Best of luck