



07.06.2018

((Assessment of the final examination for the second semester))  
Academic year 2017-2018

45

Note/ Eight marks for each question

Q1/ A: Explain the structure of the virus?

B: Define viral pathogenesis and describe the cellular pathogenesis?

Q2/ Differentiate between the following

- 1- Virion & Viroid
- 2- Chicken pox & shingles
- 3- Hepatitis virus A & Hepatitis virus C
- 4- Endocytosis & Direct membrane fusion

Q3/ A: Which cells are highly important in the immune response to viral infection and why?

B: What are the laboratory diagnoses for the following viruses


- 1- HIV
- 2- Influenza virus

Q4/ Give a scientific reason for the following questions

- 1- Why do the effective vaccine not available for HIV?
- 2- Why is there no permanent vaccine for Influenzaviruses?
- 3- Why are prions highly resistant to inactivation by UV light and nucleases?
- 4- Why does the Ebola virus causes hemorrhagic fever?

Q5/A: Give the benefit uses of viruses for human health?

B: Give the name of the viruses which cause cancer?

  
Lecturer  
Dr. Noor Sami Aboud



  
Head of Department  
Assis. prof. Dr. Laith Abdul Hassan



11.06.2018

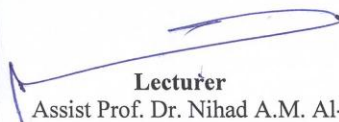
((Assessment of the final exam for the 2nd semester))  
Academic year 2017-2018

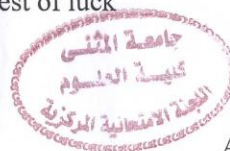
45


**Answer All Questions**

- Q1: Answer Six Branches** (12 marks)
- A- Explain what is polycistronic mRNA.
  - B- Describe the structure is *E.coli* promoter with drawing.
  - C- Show the action of topoisomerases during DNA replication.
  - D- Describe the structure of tRNA molecules with drawing.
  - E- Describe what episome in bacterial cell is.
  - F- Describe transcript action of lactose operon in *E.coli*, with drawing.
  - G- Explain Type V secretion systems in bacteria.
- Q2: Answer Two Branches** (6 marks)
- A- What are two differences between lactose operon and arabinose operon structures?
  - B- Describe hunger signal in lac and ara operons of bacteria cell.
  - C- 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?
- Q3: Answer Two Branches** (8 marks)
- A- Show the DNA polymerase activity for the fidelity of DNA replication.
  - B- Explain that any population of bacteria is far from homogeneous, example in *E.coli* culture.
  - C- Describe the Shine-Dalgarno sequence with drawing.
- Q4: Answer All Branches** (6 marks)
- A- How bacterial cell can control on initiation of DNA replication.
  - B- Explain: 1- Wobble phenomenon 2 – Function of aminoacyl tRNA synthetases
- Q5: Answer Two Branches** (8 marks)
- A- Describe the transcriptional terminators in prokaryotes, with drawing.
  - B- What is SOS repair during bacterial DNA replication?
  - C- Explain the editing mechanism of mRNA during translation.

Best of luck

  
**Lecturer**  
Assist Prof. Dr. Nihad A.M. Al-Rashedi



  
**Head of Department**  
Assist. Prof. Dr. Laith AH. M. Jawad



03. 06. 2018

Q1: A- Environmental problems solving by microorganisms. Explain that.

B- What is the main difference between cloning and DNA cloning?

C- Numerate the main tools using in DNA cloning. (6 M)

Q2: Explain in details:

1- YAC

2- MCS

(4 M)

Q3: A DNA fragment listed below need to clone in bacterial expression system. Give your opinion if there is any chance for producing recombinant protein using that system:

DNA fragment ATC CAA ATA TCG TAC CCC

tRNA CAA AUC UCG UAC AAA TTC

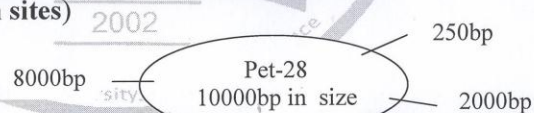
(10 M)

Q4: A- What are the application needed for studying purified recombinant protein?

B- How can we add a fusion tag to a DNA fragment?

(4 M)

Q5: Give the length and number of fragments produced after plasmid digesting with EcoR1: (lines refer to restriction sites)



(10 M)

Q6: For preparing of protein producing, we need to break down the bacterial cells. Give and talk about one methods for doing that. (6 M)

Lecturer

Assist. Prof. Dr. Laith AbdulHassan



Head of department

Assist. Prof. Dr. Laith AbdulHassan



((Assessment of the final exam for the 2st semester))  
Academic year 2017-2018

22.05.2018

45

Q1:(A) : Scientifically discussed for each of the followings: (4 Marks).

1. Cell permeability modifiers.
2.  $\alpha$ -Amylase producing bacteria.
3. Symptoms of riboflavin .
4. Protein and vitamin composition of yeast extract.

(B): How can you explain starch molecule hydrolysis by microbial enzymes ? (4 Marks).

Q2: (A) : How can you comparative between: (4 Marks).

1. GRAS & GMMS.
2. Mechanism action of penicillin and streptomycin.

(B): Duty briefly about each of the followings: (4 Marks).

1. Explain the chemical structure of the penicillin molecule? What is the part that depends on the composition of the most important types of penicillin? Discuss this scientifically.

2. What are some ideally characterizes of industrial and improvement strains ?

Q3: Mention single cell protein and explaining microorganisms and substrate used for SCP production? (8 Marks).

Q4: (A): How can you classified of proteases? (4 Marks).

(B): Describe recovery of lactic acid? (4 Marks).

Q5:(A): What are Alkaline proteases? What are the microbial strains produced? And what are the most important industrial applications? (4 Marks).

(B): What are the ideal properties of antifoam? (4 Marks).

Best of luck

Lecturer  
Maitham.A.Makei



Head of Department  
Assist . Prof . Dr. Laith.A.Al-Hassan

Ministry of Higher Education  
& Scientific Research  
Al-Muthanna University  
College of Science  
Dept. of biology



Subject: Embryology  
Stage: fourth  
Date: / /2018  
Time: 3 hours

28.05.2018

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

45

Academic year 2017-2018

Note: Answer all questions:

Q1/

A- Showed the main embryonic stages of development between the implantation and orgogenesis? (4 MARKS)

B- Explain the main stages of spermatogenesis? (4 MARKS)

Q2/

A- Explain the neurulation and neural crest derivatives? (4 MARKS)

B- List the primitive heart regions and arterial system formation? (4 MARKS)

Q3/

A- Gives the main embryonic derivatives of the following ? (4 MARKS)

1- First pharyngeal arch, 2- second pharyngeal arch, 3-third aortic arch.4-mid gut.

B- Showed the embryonic development of the following: (4 MARKS)

1- Tongue, 2- pancreas, 3-, gall bladder. 4-trachea.

Q4/

A- Explain the early stage of male gonad formation? (4 MARKS)


B- Comparative between the mesonephros and metanephros embryologically? (4 MARKS)

Q5/


A-Gives the embryonic causes that lead to separated the primitive oral cavity from gut tube in early embryonic life? (4 MARKS)

B- Showed the embryonic origin of the following structures: (4 MARKS)

1-Gut tube, 2- tracheobronchial diverticulum, 3- epicardium, 4- skin, 5- Coronary sinus, 6- inferior vena cava, 7- pulmonary artery. , 8- Pancreas.

  
Lecturer  
Assist . Prof . Dr. Bassim Abdullah J.



  
Head of Department  
Assist . Prof . Dr. Laith



28.05.2018

((Assessment of the final exam for the second semester))

45

Academic year 2017 - 2018

Q1// Define the following:

(5Marks)

- 1- Mesohyle. 2- Proglottids. 3- Chelicerae. 4- Rhynchocoel. 5- Cilia

Q2// Answer the following:

(18 Marks)

- 1- Explain the reproduction of Amoebae.
- 2- What is the relationship between *Paramecium bursaria* and green algae?
- 3- Planned the life cycle of Ascaris.
- 4- Give fundamental features of digenea that shared by adult schistosoma.
- 5- Mention the water flow of sponge.
- 6- Describe the circulatory system of Phylum Echinodermata.
- 7- Explain the class polychaeta.
- 8- What the shared characteristic between nemertean and advanced phyla.
- 9- Numerate only four classes of Mollusca with example for each class.

Q3// Give the function of the following:

(4 Marks)

- 1- Radula
- 2- parapodia
- 3- chitinous setae
- 4- Nephrostome

Q4// Give cause of the following:

(5 Marks)

- 1- Amoebas are characterized by having trophozoite stage that is naked.
- 2- The apicomplexans have complex life cycle.
- 3- Arthropoda most successful phylum.
- 4- The diploblastic organisms lack the level of sophisticated movement that seen in triploblastic organisms.
- 5- Schistosoma female leave the male for another male (divorce).

Q5// what is the difference between the following:

(8 Marks)

- 1- Brittle star and sea star
- 2- Incomplete metamorphosis and complete metamorphosis
- 3- Protostome and deuterostome.
- 4- Pseudocoelomate and coelomate

Lecturer  
Ibrahim Abdulrasol



Good Luck

Head of Department  
Assit. prof. dr. Laith Abdul Hassan