

University of Al-Qadisyiah  
College of Biotechnology  
Dept. of Med. & agr. Biotechnology



*practical*  
Examination: genetic of microorganism  
Time: Two hours  
Stage: 3<sup>rd</sup> year

Final semester examination of first semester 2017-2018 C

Q1: Define the following terms (only two)

*(4 marks)*

1. Auxotroph
2. Plasmid
3. Mutagens

Q2: Explain one of the following:

*(4 marks)*

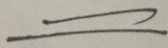
1. Numerate the compound used in plasmid curing.
2. The effect of thermal degrees on Bacterial growth

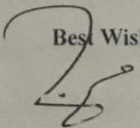
Q3: Describe the element of plasmid vector ~~(only 2)~~:


*(6 marks)*

1. Multiple Cloning Site (MCS)
2. Insert
3. Selectable Marker

Q4: Draw the basic steps in preparation of total cell DNA from a culture of bacteria. *(6 marks)*

  
Dr. Nazar Abdulameer  
Department head

Best Wishes  
  
Dr. Muhannad M. Sahib  
Department head

  
Dr. Ghasoun M. ali  
Examiner:

University of Al-Qadisyiah

College of Biotechnology

Dept. of Agricultural Biotechnology



Examination: Toxicology

Time: Two hours

Stage: third

Final semester examination of first semester 2017-2018

Note :- Answer all the questions

**Q1/ Fill in the following blanks with appropriate words or phrases (answer ten only)**

- 1-.....that branch of science that deals with poisons
- 2-..... refers to the molecular, biochemical, and physiological effects of toxicants or their metabolites in biological systems.
- 3- Special effect of toxicant are .....,.....
- 4- .....liquid or solid particles ( $<1.0 \mu\text{m}$ ) suspended in air or in another gas.
- 5- Sites of absorption in fish are .....,.....
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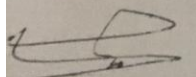
**Q2/Answer A or B**

A- Explain Pathogenic Mechanisms of Ethanol Toxicity

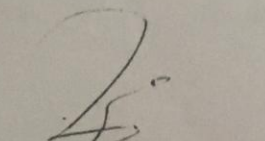
B-Enumerate the Developmental Toxicity Endpoints Type I changes

**Q3/ Mention effect of Lead Exposure at the Cellular Level of Neurogenesis**

**Q/Enumerate the Major Risk Factors for Liver Cancer**

  
Dr.S. Yasir  
Examiner

BY ST/LE  
W/S/C

  
Department head

University of Al-Qadisyiah  
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*practical*  
Examination: genetic of microorganism  
Time: Two hours  
Stage: 3<sup>rd</sup> year  
C

Final semester examination of first semester 2017-2018

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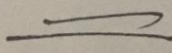
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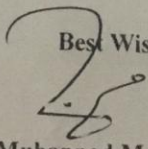
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
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1. Multiple Cloning Site (MCS)
2. Insert
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Dr. Nazar Abdulameer  
Department head

Best Wishes  
  
Dr. Muhannad M. Sahib  
Department head

  
Dr. Ghasoun M. Ali  
Examiner:

University of Al-Qadisyiah  
College of Biotechnology  
Dept. of Med. & agr. Biotechnology



Examination: genetic of microorganism

Time: Two hours

Stage: 3<sup>rd</sup> year

Final semester examination of first semester 2017-2018 B

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

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

Q2: complete the following sentences with suitable word or phrase (only 5): (10 marks)

1. The replication terminus region containing multiple copies of a 20bp sequence called ----- sequences
2. Plasmids are physically separated from a chromosomal DNA and can replicate -----
3. ----- mutations is the new codon translated to the same amino acid.
4. In bacteria, the two replication forks proceed in opposite directions from the origin until they meet at a site called -----.
5. Two types of transposon:-----and-----

Q3: (10 marks)

A: Enumerate one of the following:

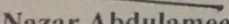
1. the Functions of plasmids
2. DNA polymerases associated with *E.coli* DNA replication

Q4: Explain the Specialized Transduction (by drawing) (5 mark)

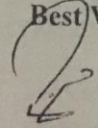
Q5: Answer by true or false the following sentences. (Only five) (5 mark)

1. In binary fission, the DNA is attached to the spindle apparatus
2. Bacterial genes are haploid
3. Transformation required extra chromosomal elements called Plasmids.
4. One strand of DNA is synthesized continuously of the replication fork called lagging strand.
5. Transition is the replacement of a Purine base with another Purine
6. In phage lysogenic cycle the host DNA is hydrolyzed


Best Wishes

  
Dr. Nazar Abdulameer

Department head

  
Dr. Muhannad M. Sahib

Department head

  
Dr. Ghasoun M. ali

Examiner

University of Al-Qadisiyah  
Faculty of Biotechnology  
Dept. of Agricultural Biotechnology



Examination: Plant Biotechnology  
Time: Two hours  
Stage: 3<sup>rd</sup> years  
Date: - / / 2018

Final examination of first semester 2017-2018

**Note: answer all questions 12 mark for each question**

**Q1/ full the blanks with the suitable words.**

1. Gene terminator sequences is located in ----- of the coding region.
2. To create a transgenic plant, you have to first ----- and ----- the gene of interest.
3. One popular chemical mutagen is ----- a very nasty and highly toxic chemical.
4. Vehicle DNA used for the genetic engineering is known as -----.
5. Bacteriophages meaning literally -----.
6. Virulent phages are those that exhibit -----.

**Q2/ A/** Explain with brief account about Ti plasmids as vectors for plant cells?

**B/** Enumerate the Application of pBR322 plasmid.

**Q3/answer one branch only:**

**A/** Why use Bt endotoxin Proteins as potential weapons in engineering insect-resistant transgenic crops. Discuss this.

**B/** How you can to determine the number of bacteriophage present in a suspension.

**Q4/ answer tow branch only:**

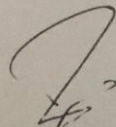
**A/** What are the Advantages of edible Vaccines over Injected Vaccines? Enumerate 5 only

**B/** Speak with brief account about integration vector?

**C /**What are the advantages of Plastid Genetic Modification? Discuss this.

**Q5/** Discuss with briefly how plant rice genetically engineered to produce  $\beta$ - carotene in its endosperm.

**Good luck**

  
**Head of Department  
Dr. Muhannad.M.Sahib**

**Examiner  
Dr. Muhannad.M.Sahib**

University of Al-Qadisiyah  
College of Biotechnology  
Dept. of Medical Biotechnology  
3<sup>rd</sup> year of undergraduate



Exam: Practical Enzymology  
Time: Two hours  
Date:  
Attempt:

Final Examination of 1<sup>st</sup> Semester 2017-2018

Note: Answer all questions

Q1 Define of the following (5 M)

- 1 Turnover number
- 2 Centrifuge
- 3 Coenzyme
- 4 Superoxide dismutase
- 5 Amylases

Q2 Enumerate of the following (5 M)

- a. Types of spectrophotometer.
- b. Application of centrifuge.

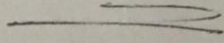
Q3 Answer of the following 5 (M)

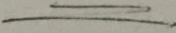
- ✓ a. Vigorous methods used in disruption of membranes.
- b. Factors affecting on enzymes activity.

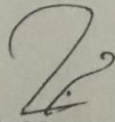
Q4 Explain two of the following (5 M)

- a. Preparation of buffer solution.
- b. Hypothesis of enzymes work.
- c. Extraction of membrane-bound enzymes.

GOOD LUCK

  
Assist. Prof. Dr. Nazar A. Hamzah  
Examiner

  
Assist. Prof. Dr. Nazar A. Hamzah  
Head of Medical Biotechnology  
Department

  
Assist. Prof. Dr. Muhannad M. Sahib  
Head of Agricultural Biotechnology  
Department



Final Examination of First Semester 2017-2018

Note: Answer all questions

Q1 Match the contents in list A with the suitable in list B. (10 M)

list A

1.  $k_{cat}$
2.  $\frac{d[ES]}{dt} = -\frac{d[ES]}{dt}$
3. Multisubunit enzyme
4. Caspases
5. Feedback inhibition
6. Poly-A polymerase
7.  $\beta$ -galactosidase
8. Zero order kinetics
9. Biotin
10. Exothermic reactions

list B

- a. Vitamin of the B complex
- b. Steady state assumption
- c. Negative  $\Delta G$
- d. Isoleucine synthesis
- e. Inflammation and cell death
- f. Protects from degradation by nucleases
- g. *Escherichia coli*
- h. Rate =  $k$
- i.  $V_{max}/[E_0]$
- j. Allosteric activation

Q2 Answer with true and false of the following. (10 M)

1. Rate of ES breakdown is  $\frac{-d[ES]}{dt} = k_1[ES] + k_2[ES] = [ES](k_1 + k_2)$ .
2. Enzyme kinetics affected by ionic strength.
3. The products of RNA polymerase I are hnRNAs.
4. A noncompetitive inhibitor mimics the substrate.
5. The thermal agitation of the enzyme disrupts weak interactions that stabilize the active shape.
6. Induced fit brings chemical groups of the active site into positions that enhance their ability to catalyze the chemical reaction.
7. Urease extracted from jack bean, shown to be a protein.
8. Living systems increase the entropy of their surroundings, as predicted by thermodynamic law.
9. A plot of  $v$  versus  $[S]$  fits a rectangular hyperbolic function.
10. Amino acyle-tRNA Synthetase catalyze of tRNA activation with amino acids.

Q3 Answer of the following. (10 M)

- a. When  $[S_0] \geq 20 K_m$ , prove  $v_0 = 0.95 V_{max}$ .
- b. Effects of pH on enzyme activity.

Q4 Explain two of the following. (10 M)

- a. Bind of ATP and ADP to catabolic enzymes allosterically.
- b. Diagram of the effect of an enzyme on activation energy.
- c. Coenzyme A and Pantothenic acid.

GOOD LUCK

Assist. Prof. Dr. Nazar A. Hamzah  
Examiner

Assist. Prof. Dr. Nazar A. Hamzah  
Head of Medical Biotechnology  
Department

Assist. Prof. Dr. Muhannad M. Sahib  
Head of Agricultural Biotechnology  
Department



Final semester examination of first semester 2017-2018

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Note: Answer only eight questions (5 mark for each question ).

Q1/ What is the electronically- excited state?

Q2/ What is the relationship between wavelength and frequency?

Q3/ Numbered the types of organic photochemical reactions and give an example of them?

Q4/ Define the Photo sensitization and what the requirement of the good sensitizer?

Q5/ Numbered only the relaxation process.

Q6/ Explain the effect of solvent on photochemical reactions.

Q7/ Explain the effect of concentration on absorption.

Q8/ Explain with brevity the absorption by atom.

Q9/ Explain with detail Franck-Condon principle.

Best wishes

A handwritten signature in black ink, appearing to be 'M. Sahib'.

Department head

Dr. Muhannad M. Sahib

A handwritten signature in black ink, appearing to be 'Nadia B. Hussaen'.

Examiner

As.t. Nadia B. Hussaen





Final semester examination of first semester 2017-2018

**Q1// Define the following term? (Four only)**

1- IUI, 2- PGD, 3- Zona pellucida, 4- reproductive cloning, 5- FISH

**Q2// Complete the following sentence?**

1- The egg grows inside a fluid-filled sac called a ----- under the influence of ----- Hormone.

2- The goal of AI is to increase the number of sperm that reach the ----- and subsequently increase the chance of -----.

3- In the digital manipulation procedure, we massaging the (a) ----- (b) ----- (c) ----- through the wall of the rectum.

4- ----- method used to sperm sorting by fluorescent dyes which stain DNA.

**Q3// What are the risks of cloning?**

**Q4// Discussion the following sentence? (two only)**

A- Sperm collection

B- Sperm Concentration

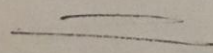
C- Risks to the child conceived via IVF/PGD

**Q5// Answer the following (two only)**

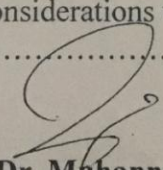
A- The conventional techniques of semen sexing depended on differential between male sperm and female sperm. Enumerated this differentiation?

B- Compartment between mass and individual sperm motility? ( by Grade & Description only )?

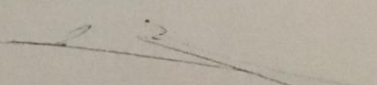
C- What are the necessary considerations when embryos collected?  
.....

  
Dr. Nazar Abdulameer

Department head

  
Dr. Muhannad M. Sahib

Department head

  
Name: Alaa kamil Abdulla

Examiner

University of Al-Qadisyiah

College of Biotechnology

Dept. of Agricultural Biotechnology



Examination: Toxicology

Time: Two hours

Stage: third

Final semester examination of first semester 2017-2018

Note :- Answer all the questions

**Q1/ Fill in the following blanks with appropriate words or phrases (answer ten only)**

- 1-.....that branch of science that deals with poisons
- 2-..... refers to the molecular, biochemical, and physiological effects of toxicants or their metabolites in biological systems.
- 3- Special effect of toxicant are .....,.....,.....
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**Q2/Answer A or B**

A- Explain Pathogenic Mechanisms of Ethanol Toxicity

B-Enumerate the Developmental Toxicity Endpoints Type I changes

**Q3/ Mention effect of Lead Exposure at the Cellular Level of Neurogenesis**

**Q/Enumerate the Major Risk Factors for Liver Cancer**

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Dr.S. Yasir  
Examiner

A handwritten signature in black ink, appearing to be a stylized name.

Department head

University of Al-Qadisyiah

College of Biotechnology

Dept. of Agricultural Biotechnology



Examination: Toxicology

Time: Two hours

Stage: third

Final semester examination of first semester 2017-2018

Note :- Note :- Answer 5 questions only (4 marks for each question )

Q1/ Mention symptoms of mushroom poisoning

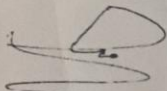
Q2/ Mention major fungi produced mycotoxin

Q3/ How can you diagnosis aflatoxins B1, B2 ,G1, G2

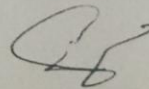
Q4/ Give examples about Toxic Chemicals

Q5/ What are Toxicity and symptoms of biogenic amines

Q6/ Draw diagram explain  $LD_{50}$ ,  $ED_{50}$ , MTD, MED



Dr.S. Yasir  
Examiner



Department head