

University of Al-Qadisiyah

Faculty of Biotechnology

Dept. of Agricultural & Medical Biotechnology



Examination: Biosafety

Time : Two hour

Stage : 4<sup>th</sup> year

Final semester examination of first semester 2017-2018

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**Q1/ Answer the following braches : (10M.)**

**A- How to assess the risk before exposure ?**

**B- What we mean the term following ? ( Two only )**

**1- PPE    2- Biosafety    3- SOPs**

**Q2/ Explain the principles of biosafety in the transport of hazardous pathogens . (10M.)**

**Q3/ Draw an outline that indicates it . ( Two only )**

**1- Procedures and practices of biosecurity . (10M.)**

**2- Lab support-Restricted access . (10M.)**

**3- Program components of a hypothetical project . (10M.)**

**Q4/ Classify biosafety levels according to risk group classification . (10M.)**

**Q5/ How the laboratory is supported by space adjacency matrix ? (10M.)**

**Dr. Nazar A. A. Hamzah**

**Department head**

**Best wishes**

**Dr. Mohanad M. Sahib**

**Department head**

**Name : Dr. Najlaa A. Dawood**

**Examiner**

University of Al-Qadisyah

College of Biotechnology

Dept. of Agricultural, medical Biotechnology



Examination: Secondary  
metabolism paradiol

Time: Two hours

Stage: Fourth

Final semester examination of first semester 2017-2018

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Q1: What are phenolics? and draw structure. (5 marks).

Q2: List only type of pollination. (5 marks).

Q3: What modification of root? (5 marks).

Q4: List only types of stomata. (5 marks).

Best wishes

Department Head

Dr. Muhannad. M. Sahib

Department Head

Dr. Nazar Abdulameer Hamzah

Name: Examiner

Amaal abd Al-ridha



University of Al-Qadisyah

Faculty of Biotechnology

Dept. of Agri.&Med. Biotechnology



Subject: Genetic Engineering

Time: Two hours

Stage: 4<sup>th</sup> year

**Final exam of first semester 2017-2018a**

**Notice;** Answer **Four** of the following questions.

**Q. 1.Explain the following terminology? (10 marks)**

1-Selection

2-Screening

**Q2.Fill the following space with the correct answer?(10 Marks)**

**Genetic engineering**, is the direct ..... of an organism's..... using..... It is a..... of..... used to.....the genetic makeup of cells, including the transfer of genes.....and.....species boundaries to produce..... or.....organisms.

**Q3.What are the main steps for molecular cloning ?(10 Marks)**

**Q4 Explain the procedure for creation a transgenic plant?(10 marks)**

**Q5. Answer for each question by choose in either the True (T) or the False (F) after read carefully of the following sentences?(10 Marks)**

1- Molecular cloning is a set of experimental methods in molecular biology.

2- *Cloning* refers to the fact that the method involves the replication of one molecule to produce a population of cells with different DNA molecules.

3- A plasmid is an chromosomal element, often a circular DNA.

4- A selectable marker is not actually a required element of a plasmid, but it makes it possible for us to maintain stocks of cells that contain the plasmid uniformly.

5- The hygromycin phosphotransferase (*hpt*) gene was originally derived from *Escherichia coli*.

*All the Best*

Handwritten signature of Dr. Fadil Al-Swedi.

**Dr. Fadil Al-Swedi**

**Examiner**

Handwritten signature of Dr. Nazar Hamza.

**Dr. Nazar Hamza**

**Med. Head Department**

Handwritten signature of Dr. Mohannad Sahib.

**Dr. Mohannad Sahib**

**Agri. Head Department**

University of Al-Qadisyiah  
Faculty of Biotechnology  
Dept. of Agri.&Med. Biotechnology



Subject: Genetic Engineering Lab

Time: one hours

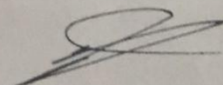
Stage: 4<sup>th</sup> year

Final exam of first semester 2017-2018 a

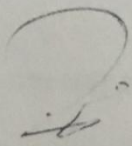
Notice; Answer four of the following questions.

- Q. 1. What are the Special precautions for working with heat or fire (5 marks?)
- Q.2. What Pretreat to make nucleated cells available? (5 Marks).
- Q.3. Draw The Agrobacterium Ti plasmid system? (5Marks)
- Q.4. How The Agrobacterium Ti plasmid-mediated transformation – an overview? Draw? (5Marks)
- Q.5. Mention to the growth media for transformation experiment? (5Marks)

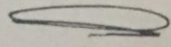
*All the Best*

  
Dr. Fadil Al-Swedi

Examiner

  
Dr. Mohammed Sahib

Head of Department

  
Dr. Nizar Abdelgawad





Final semester examination of first semester 2017-2018

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Answer four(4) of the following:

Q1: Explain primary growth in stem draw only(10marks)

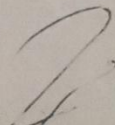
Q2: Mention diagram growth in plant(10marks)

Q3: Explain structure: a: Anthocyanins      b: Myristicin      (10 marks)

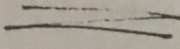
Q4: What cell wall components? and draw explain structure cell wall?(10 marks)

Q5: They are very common in certain plant families especially? write (4 only).(10 marks)

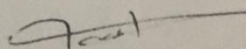
Best wishes

  
Department Head

Dr. Muhannad.M.Sahib

  
Department Head

Dr. Nazar Abdulameer Hamzah

  
Name: Examiner

Amaal abd Al-ridha

University of Al-Qadisyiah

College of Biotechnology

Dept. of Agr./Med. Biotechnology



Examination: Bioinformatics

Time: Two hours

Stage: 4<sup>th</sup>

Final semester examination of first semester 2017-2018

Note: Answer five questions only, 12 marks for each question.

Q1: Compare between Sanger and Pyrosequencing methods .

Q2: For each statement write (T) for true and (F) for false and correct the false statement.

1. Cycle sequencing in chain termination sequencing performed in a thermal bath.
2. In dye primer sequencing, the primer contains fluorescent dye-conjugated nucleotides, labeling the sequencing ladder at the 3' ends of the chains.
3. In dye terminator sequencing, the fluorescent dye molecules are covalently attached to the dideoxynucleotides, labeling the sequencing ladder at the 5' ends of the chains
4. Entrez is A system of 30 linked databases
5. Optimal  $T_m$  for PCR primer between 70 and 80°C.
6. Methylated Adenine is changed by bisulfite treatment.

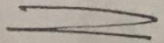
Q3: Why do you need NCBI in your research?

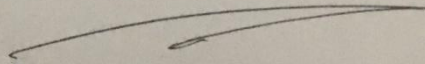
Q4: Compare between Entrez databases .

Q5: Describe the principles of PCR primer ?

Q6: Why do we use Bisulfite sequencing method?

Best wishes

  
Department head

  
Name: Mohammed Al-Askari  
Examiner



Exam: Forensic DNA  
Time: Two Hours  
Stage: Fourth



University of Al-Qadisyah  
College of Biotechnology  
Medical Biotechnology

Final Exam of first semester 2017-2018

**Note: Answer all the questions, 10 marks for each one .**

**QI/ What are the main steps in DNA sample analysis? and what are the sources of biological evidence ?**

**QII/ What is the capillary electrophoresis ?**

**QIII/ In the following global events: which DNA technology should be used,**

- 1- 11 September events
- 2- Anastasia identity identification ✓
- 3- Spiker air force base crime

( 2 only )

**QIV/ Choose best one answer of the following :**

- 1- Short tandem repeats contain a core repeat region between -----
  - a-(1and 4bp)
  - b-(1and 6bp) ✓
  - c-(2and 4bp)
  - d-(1 and 10bp)
- 2- SNPs are found in the human genome about once in every -----
  - a- 1000bp
  - b- 10bp
  - c- 6bp
  - d- 20bp
- 3- In mtDNA heavy strands have greater number of -----
  - a- adenine
  - b-guanine
  - c- thiamin
  - d- cytosine
- 4- Restriction enzyme can be used to genotype -----
  - a- STR
  - b- mistake
  - c- SNP
  - d- PCR
- 5- Mitochondrial DNA have no -----
  - a- loop ✓
  - b-repair mechanism ✓
  - c- coding gene
  - d- introns

1k  
miga =

1Kb = 1000 bp

Good Luck

Prof. Asst. Dr. Dina M. Alkhafaf  
Lecturer

Prof. Asst. Dr. Nazar A. Hamza  
Head of Dept.

University of Al-Qadisiyah  
College of Biotechnology  
Dept. of Agriculture Biotechnology



Examination: Fertilization technology  
Time: Two hours  
Stage: four stage  
Attempt

Final semester examination of first semester 2017-2018

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

1- Cow cycles, 2- Sperm Maturation, 3- Capacitation, 4- Successful Pregnancy Rate, 5- Flow cytometric.

**Q2// Complete the following sentence? (Four only)**

- 1- The difference between males and females is that when a female is born she has ----- of germ cells, whereas a male produces germ cells -----.
- 2- Many of the requirements for successful acrosome reaction are related to the process of capacitation, such as, -----, ----- and -----.
- 3- By ----- of semen after collection and frequent checking on fertility make early detection of inferior males and better breeding efficiency is ensured.
- 4- We can use the abnormally shaped sperm injection, when -----.
- 5- The ----- sperm fits the basal medium and does not live long in the acid medium, while the ----- sperm prefer the acidic medium.

**Q3// How does work reproductive Cloning?**

**Q4// Write (T) or (F)? (Four only)**

- 1- The corona radiata is the innermost layer of the cells of the cumulus oophorus and is directly adjacent to the zona pellucida.
- 2- The electroejaculation is technique need to female.
- 3- The viscous semen refers to chronic epididymitis.
- 4- The superovulation procedures can be used to all laboratory and livestock species.
- 5- The IVF can be used to any cases which prevented the sperm release.

**Q5// Answer the following (A or B)**

- A- Differences between IVF and ICSI. (Indication)
  - B- Enumerate the conventional techniques of semen sexing method?
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Dr. Muhannad M. Sahib  
Department head

Name: Alaa kamil Abdulla  
Examiner