
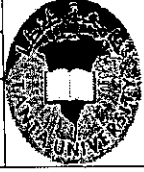


مركز العلوم



	Tanta University, Faculty of Science, Department of Botany			
	Final Examination for (Second Year) Students of Microbiology			
	Course Title: Instrumental Methods in Microbiology		Course Code: <del>Microbiology</del>	
Date: December 25, 2017	First Semester	Total Assessment Marks: 100	Allowed Time: 2 Hours	

**Question1. Chromatography is an analytical technique used for separating a mixture of chemical substances into its individual components. (15 Marks)**

- Define each of the following: Eluent - Stationary phase. (5 Marks)
- Compare between gas chromatography and affinity chromatography according to mobile phase, stationary phase and the basis of separation. (5 Marks)
- What is the principle of separation of different components in chromatography? (5 Marks)

**Question2. Genetic variations are the differences in DNA segments or genes between individuals. (15 Marks)**

- Define each of the following: Allele - Transposable elements. (5 Marks)
- With labeled drawings only, show how *E. coli* can produce insulin? (10 marks)

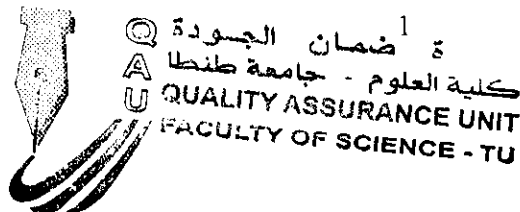
**Question3. Polymerase chain reaction (PCR) is a technique used in molecular biology to amplify DNA. (30 Marks)**

- Give two reasons why real-time PCR is the favored method to detect gene expression than standard PCR? (5 Marks)
- List two possible reasons that real-time PCR could produce erroneous results. (5 Marks)
- With labeled drawings and brief description, explain the nested PCR. (10 Marks)
- What is the purpose of DMSO, highly processive and hyperthermostable DNA polymerases in GC-rich PCR? (5 Marks)
- Mention the conditions that needed to be done in Multiplex PCR? (5 Marks)

**Question4. DNA sequencing is the process of determining the sequence of nucleotide bases in a piece of DNA. (10 Marks)**

- What are the ingredients of Sanger sequencing reaction? (5 Marks)
- What are the advantages of next-generation sequencing in comparison with Sanger sequencing reaction? (5 Marks)

Please, continue to the following paper sheet



95/20

TANTA UNIVERSITY, FACULTY OF SCIENCE, BOTANY DEPARTMENT			
Examination for level 2 Students (Special Microbiology)			
Course title:	PRINCIPLES OF MYCOLOGY		Course Code: MB2103
DATE: 23 / 12 / 2017	TERM: FIRST	TOTAL ASSESSMENT MARKS: 150	Time Allowed: 2 hours

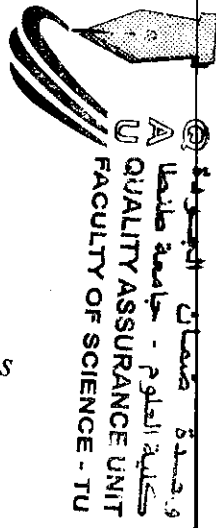


(Q1) Write on **two** of the following: (50 mark)

- 1- Key to classes of Basidiomycotina and Mastigomycotina.
- 2 -Classification of *Plasmidiphora* sp. and *Physarum* sp. and describe the life cycle of **one** of them .
- 3-Formation of ascocarp in Ascomycotina

( Q2) Complete the following: (50mark)

- 1- Stages of life cycle in *Puccinia graminis*...., .....,.....and types of spores.....and classification .....
- 2- Orders of Zygomycetes .....,.....and classification of Absidia.....
- 3- In Oomycetes, meiosis division occurs after the formation of ..... and....
- 4- Classification of *Pythium* sp. .... and general characters .....,.....,
- 5- General characters of Deuteromycotina .....,.....and characteristics of Plectomycetes.....
- 6- Ascus wall of Ascomycotina may be ... or ... and asexual reproduction in *Taphrina* sp.by.....
- 7- Shapes of ascospores in yeasts .....,..... and classification of *Saccharomyces cerivisiae*.....
- 8- Classes of Ascomycotina .....,....., .....,.....and of Myxomycota .....,.....
- 9-Characters of Mucorales.....and of Peronosporaceae.....
- 10-Types of sporangia in *Allomyces* sp.....and types of somatic structure in *Saprolegnia* sp. ....
- 11-Sexual reproduction in Hemiascomycetes by..... or .....



(Q3) A- Write on stages of **life cycle of Claviceps** sp. (50mark)



B- Compare between of the following : (only 3)

- 1- Hypogean and Epigean Discomycetes.
- 2- Cleistothecium of Eurotiales and Erysiphales .
- 3- Different genera of Erysiphaceae.
- 4 - Different genera of Peronosporaceae.

Prof. Dr. Omya Ahmed Awadalla

Good luck.....

ق-2

	TANTA UNIVERSITY, FACULTY OF SCIENCE, DEPARTMENT OF BOTANY			
	EXAMINATION FOR SOPHOMORES STUDENTS OF MICROBIOLOGY			
COURSE TITLE:	Actinomycetes		COURSE CODE:	MB 2107
DATE: 27-12-2017	JANU.2018	TERM: FIRST	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2HOURS

Answer the following questions:

1-Complete the following sentences: (20 marks)

- a- Fastidious means.....
- b- Mycobacterial growth ranged between .... and.....
- c- Cell wall structure of CMN consists of... ..,.....,.....,.....,.....
- d- The characteristic form of *Corynebacterium* bacterium is.....
- e-*Streptomyces* sp. characterized by production of .....,.....,.....
- f- Tuberculin test used in.....

2- Identify the following: (20 marks)

corde factor, signature proteins ,pleomorphic

3-Discus the following: (20 marks)

- a- Pigmentation in *Mycopacterium*
- b-Causes of industrial importance of *Rhodococcus* sp.

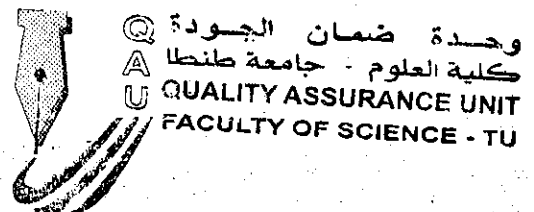
4-Mentions the different applications of Actinomycetes (10 marks)

5- How to diagnose the infections resulted by the following bacterial species: *Corynebacteria* , *Mycobacteria* and *Nocardia* (15 marks)

6- Compare between pathogenicity of *Corynebacteria* , *Mycobacteria* and *Nocardia* (15 marks)



Best wishes

Examiners: Dr. Nanis G. Allam, Prof. D r. Omya Aud-Allah



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بسم الله الرحمن الرحيم  
كلية العلوم - جامعة طنطا  
قسم البotanica

	BOTANY DEPARTMENT - TANTA UNIVERSITY - FACULTY OF SCIENCE		
Final Examination / Second Year All Levels			
Course Title:	General Genetics	Course Code: BO2105	
30 Dec. 2017	Term: First	Total assessment marks: 150	Time Allowed: 2 hours

**ANSWER THE FOLLOWING QUESTIONS**

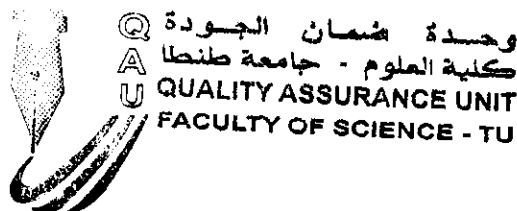
1. Discuss the role of genes present on somatic chromosomes in sex determination. (20 Marks)
2. How cumulative genes affect the degree of character expression. Explain with an example. (20 Marks)
3. Multiple alleles pattern of inheritance is exemplified in plants ... explain this statement. (20 Marks)
4. There are two types of chromosomal systems in sex determination in different organisms... discuss. (20 Marks)
5. Characters of sex-linked genes differ from characters carried on somatic chromosomes. Explain this statement. (20 Marks)
6. Write on the following: (50 Marks)
  - a. Two changes in chromosome numbers. (10 Marks)
  - b. Pseudoalleles. (10 Marks)
  - c. Significance of Meiosis. (10 Marks)
  - d. Mitotic cell cycle. (10 Marks)
  - e. Types of chromatin materials. (10 Marks)

**Examiners:**

*With our best wishes*


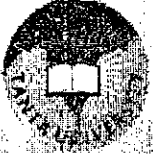
*Prof. Dr. Adel Elshanshory*

*Prof. Dr. Reda Gaafar*



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نظام امتحان الكليات العلمية - جامعة طنطا  
الامتحان النهائي / السنة الثانية جميع المستويات

	BOTANY DEPARTMENT - TANTA UNIVERSITY - FACULTY OF SCIENCE		
Final Examination / Second Year All Levels			
Course Title:	General Genetics	Course Code: BO2105	
30 Dec. 2017	Term: First	Total assessment marks: 150	Time Allowed: 2 hours

**ANSWER THE FOLLOWING QUESTIONS**

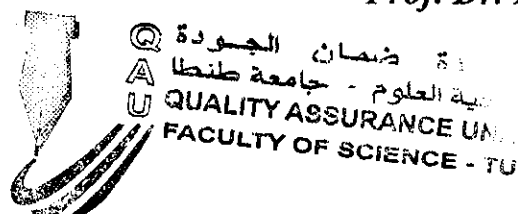
1. Discuss the role of genes present on somatic chromosomes in sex determination. (20 Marks)
2. How cumulative genes affect the degree of character expression. Explain with an example. (20 Marks)
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  - a. Two changes in chromosome numbers. (10 Marks)
  - b. Pseudoalleles. (10 Marks)
  - c. Significance of Meiosis. (10 Marks)
  - d. Mitotic cell cycle. (10 Marks)
  - e. Types of chromatin materials. (10 Marks)

**Examiners:**


*With our best wishes*

*Prof. Dr. Adel Elshanshory*

*Prof. Dr. Reda Gaafar*



*S. G. ...*

BOTANY DEPARTMENT - TANTA UNIVERSITY - FACULTY OF SCIENCE			
Final Examination / Second Year All Levels			
Course Title:	General Genetics	Course Code: BO2105	
30 Dec. 2017	Term: First	Total assessment marks: 150	Time Allowed: 2 hours

**ANSWER THE FOLLOWING QUESTIONS**

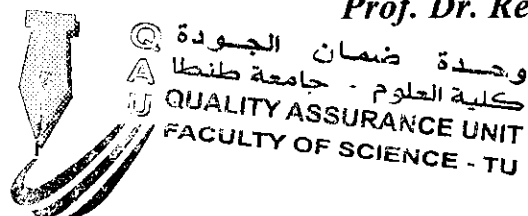
1. Discuss the role of genes present on somatic chromosomes in sex determination. **(20 Marks)**
2. How cumulative genes affect the degree of character expression. Explain with an example. **(20 Marks)**
3. Multiple alleles pattern of inheritance is exemplified in plants ... explain this statement. **(20 Marks)**
4. There are two types of chromosomal systems in sex determination in different organisms... discuss. **(20 Marks)**
5. Characters of sex-linked genes differ from characters carried on somatic chromosomes. Explain this statement. **(20 Marks)**
6. Write on the following: **(50 Marks)**
  - a. Two changes in chromosome numbers. **(10 Marks)**
  - b. Pseudoalleles. **(10 Marks)**
  - c. Significance of Meiosis. **(10 Marks)**
  - d. Mitotic cell cycle. **(10 Marks)**
  - e. Types of chromatin materials. **(10 Marks)**

**Examiners:**


*With our best wishes*

*Prof. Dr. Adel Elshanshory*

*Prof. Dr. Reda Gaafar*



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بكالوريوس في العلوم - جامعة طنطا - كلية العلوم - قسم البيولوجيا

BOTANY DEPARTMENT - TANTA UNIVERSITY - FACULTY OF SCIENCE			
Final Examination / Second Year All Levels			
Course Title:	General Genetics	Course Code: BO2105	
30 Dec. 2017	Term: First	Total assessment marks: 150	Time Allowed: 2 hours

ANSWER THE FOLLOWING QUESTIONS

1. Discuss the role of genes present on somatic chromosomes in sex determination. (20 Marks)
2. How cumulative genes affect the degree of character expression. Explain with an example. (20 Marks)
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  - c. Significance of Meiosis. (10 Marks)
  - d. Mitotic cell cycle. (10 Marks)
  - e. Types of chromatin materials. (10 Marks)

Examiners:

With our best wishes

Prof. Dr. Adel Elshanshory

Prof. Dr. Reda Gaafar



وحدة ضمان الجودة  
كلية العلوم - جامعة طنطا  
QUALITY ASSURANCE UNIT  
FACULTY OF SCIENCE - TU

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<b>UNIVERSITY OF TANTA, FACULTY OF SCIENCE DEPARTMENT OF BOTANY</b>			
FINAL EXAMINATION FOR (SOPHOMERS) Second YEAR STUDENTS BOT. & MICRO.			
COURSE TITLE: <b>Cell Biology</b>		COURSE CODE: Bo 2107	
DATE: 1, 1, 2018	TERM: FIRST	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2 HOURS

Answer the following questions:

**Question 1:**

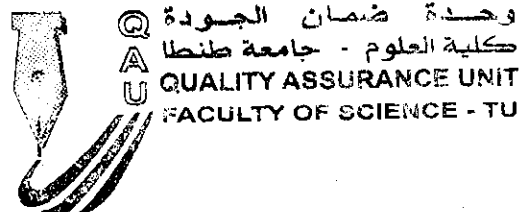
**Put (R) in front of wright sentences and (W) in front of wrong ones with correction (15 mark)**

- 1- Leucoplasts contain both chlorophyll a and b. ( )
- 2- Replication is the production of DNA from RNA. ( )
- 3- Deutroplasm is living contents of the cytoplasm. ( )
- 4- The fibers of the three layers of secondary cell wall are parallel. ( )
- 5- Granum composed of closely packed thylakoids. ( )
- 6- Lysosomes are formed by the endoplasmic reticulum. ( )
- 7- Cytochrome F is found in the mitochondria outer membrane. ( )
- 8- Integral protein is free of lipids. ( )
- 9- Peroxisomes are rich in peroxides enzymes. ( )
- 10- Centrioles are characteristic of animal cells. ( )


**Question 2:**

**Wright shortly on the following with labeled drawings if possible (30 marks)**

- 1) Telomeres.
- 2) Protein scaffold.
- 3) The origin of Golgi apparatus.
- 4) Chromosome banding
- 5) Functions of Lysosomes.



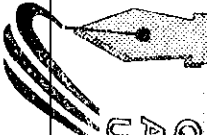


 1989	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF CHEMISTRY EXAMINATION FOR SECOND YEAR STUDENTS		
	COURSE TITLE:	PRINCIPLES OF ANALYTICAL CHEMISTRY	COURSE CODE: CH2105
DATE:	6-1-2018	TERM: FIRST TERM	TOTAL ASSESSMENT MARKS: 100 TIME ALLOWED: 2 HOURS

**Question (I): State true (✓) or false (×) and give the reasons for your answer:**

(45 Marks)

- The acidic medium is the best one for the titration of sodium oxalate by potassium permanganate.
- The titration of 0.1N sulfurous acid by sodium hydroxide is stepwise. ( $K_1=1.2 \times 10^{-2}$ ,  $K_2=5.6 \times 10^{-8}$ )
- EDTA can be called chelating agent.
- The normal hydrogen electrode contains titanium sheet.
- $SCN^-$  ions can be determined satisfactory using Mohr's method.
- The titration of 1 N carbonic acid can be titrated. ( $K_1=4.2 \times 10^{-7}$ ,  $K_2=4.8 \times 10^{-11}$ )
- The pH value in the titration of weak acid against weak base equals  $\frac{1}{2} pK_w + \frac{1}{2} pK_a + \frac{1}{2} \log C_{salt}$
- It is possible in Volhard's method to complete titration in presence of AgCl.
- For writing the half cell equation, the reduced form can be written in the left hand.
- $Br^-$  and  $I^-$  ions can be determined by Volhard's method without any titration error.
- $HCrO_4^-$  or  $Cr_2O_7^{2-}$  ions can be used to detect the end point for the precipitation titration of  $Cl^-$  ions using Mohr's method.
- Nernst equation can be applied for the half cell reaction, if the solutions concentration equals 1 N.
- Each of  $Fe^{3+}$  and  $Ca^{2+}$  can be determined using EDTA titration.
- Lewis acid can be defined as hydrogen acceptor.
- Heating is necessary for  $Al^{3+}$ -EDTA titration.

  
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**Question (II): Choose the correct answer from each of the following and give the reasons:**

(15 Marks)

- Which of these metal ions can be masked using  $CN^-$  ions?
  - $Mg^{2+}$
  - $Zn^{2+}$
  - $Ni^{2+}$
- Distinction between a weak acid or strong acid can be made through.....
  - Phenolphthalein indicators
  - universal indicator
  - methyl orange indicator
- For Mercurimetric determination of cyanide,
  - $Fe^{3+}$
  - $Hg^{++}$
  - $Hg^+$  was used as indicator
- Hydrogen acts as a reducing agent,.....
  - by taking oxygen
  - by giving electrons
  - by taking hydrogen
  - Both A and B