
	TANTA UNIVERSITY, FACULTY OF SCIENCE, DEPARTMENT OF BOTANY			
	FINAL EXAMINATION FOR THE FOURTH YEAR (SPECIAL MICROBIOLOGY)			
COURSE TITLE	MICROBIOLOGY OF SOIL	COURSE CODE: MB4103		
DATE: 27/12/2016	2016	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2 HOURS	

**The exam is comprised of 2 pages**

**Answer the following question**

**I. Select the correct answer (20 marks)**

A) Which of the following fungi can improve their uptake of phosphorus and other nutrients?

- |                             |                      |
|-----------------------------|----------------------|
| 1. Saccharomyces cerevisiae | 2. VA Mycorrhiza     |
| 3. Candida torulopsis       | 4. Aspergillus niger |

B) Synergetic between microorganisms involves

- |   |   |
|---|---|
| 1. Exchange of nutrients between two species    | 2. Exchange of nutrients among species    |
| 3. No exchange of nutrients between two species | 4. No exchange of nutrients among species |

C) The diagnostic enzyme for nitrogen-fixing organisms is

- |                |                      |                    |                  |
|----------------|----------------------|--------------------|------------------|
| 1. Nitrogenase | 2. Nitrate reductase | 3. Nitrate oxidase | 4. None of these |
|----------------|----------------------|--------------------|------------------|

D) Denitrification is

1. Reduction of nitrate (NO<sub>3</sub><sup>-</sup>) to nitrogen gas
2. Reduction of nitrate to organic nitrogen compounds
3. Both (a) and (b)
4. Changing of atmospheric nitrogen (N<sub>2</sub>) to nitrogen compounds

E) Which are the main source of biofertilisers?

- |                     |             |                  |                  |
|---------------------|-------------|------------------|------------------|
| 1. Blue green algae | B. Bacillus | C. Streptococcus | D. None of these |
|---------------------|-------------|------------------|------------------|

F) The photosynthetic symbiont of a lichen is often a (n)

- |         |               |               |                |
|---------|---------------|---------------|----------------|
| 1. Moss | 2. Green alga | 3. Brown alga | 4. Ascomycetes |
|---------|---------------|---------------|----------------|

G) The physical structure of soil is improved by the accumulation of

- |                  |             |          |                 |
|------------------|-------------|----------|-----------------|
| 1. Mold mycelium | 2. Minerals | 3. Water | 4. All of these |
|------------------|-------------|----------|-----------------|

H) The phenomenon of commensalism refers to a relationship between organisms in which

- |  |                                       |
|--|---------------------------------------|
| 1. One species of a pair benefits          | 3. both the species of a pair benefit |
| 2. One species of a pair is more benefited | 4. D. none of the above               |


I) In which cycle are bacteria important for processes other than decomposition?

- |                   |                |                 |                      |
|-------------------|----------------|-----------------|----------------------|
| 1. Nitrogen cycle | 2. Water cycle | 3. Carbon cycle | 4. phosphorous cycle |
|-------------------|----------------|-----------------|----------------------|

J) 1. Which of the following cycles does not have a gaseous phase

- |           |             |               |           |
|-----------|-------------|---------------|-----------|
| 2. Carbon | 2. Nitrogen | 3. Phosphorus | 4. Sulfur |
|-----------|-------------|---------------|-----------|

مدرسة

	Tanta University - Faculty of Science - Botany Department			
	Examination for 4 <sup>th</sup> level Students of special Microbiology			
COURSE TITLE	تنوع حيوى ومحميات طبيعية		COURSE CODE: BO4125	
Date, 3	January 2017	TERM: second	TOTAL ASSESSMENT MARKS: 50	TIME ALLOWED: 2 HOURS

السؤال الاول : عرف المصطلحات العلمية الآتية: (١٢ درجة)  
النوع النادر - عملية الانتخاب الطبيعي - الفترات الجليدية والبين جليدية  
- التنوع الوراثى - محطات الرصد البيئى - التربية البنية

السؤال الثانى : (١٠ درجات)  
أ - فقط بالرسم والبيانات وضح مخطط إنشاء المحمية الطبيعية.  
ب - اشرح كيف استغل الانسان الكائنات الدقيقة والكائنات الممرضة لتحقيق فائدة. (٥ درجات)


السؤال الثالث : اكتب فيما يأتى (٨ درجات)  
ب - دور الحدائق النباتية وحدائق الحيوان فى المحافظة على التنوع الحيوى  
أ - العوامل الغير طبيعية التى تؤدى الى قلة التنوع الحيوى. (٤ درجات)


السؤال الرابع: اكتب عما يأتى (١٠ درجات)  
أ - دور التربية البينية والوازع الأخلاقى فى المحافظة على التنوع الحيوى.  
ب - وضح أهمية و دور بنوك الأصول الوراثية (٥ درجات)

السؤال الخامس: اجب عما يأتى: (١٠ درجات)  
١ - وضح دور المحميات الطبيعية فى خدمة التنوع الحيوى عامة.  
٢ - قارن بين محمية سانت كاترين و محمية جبل علبه. (٥ درجات)

أ د أحمد شرف الدين د رجب الفحار

TANTA UNIVERSITY  
FACULTY OF SCIENCE  
DEPARTMENT OF BOTANY



 1969	<b>FOURTH YEAR (CHEMISTRY \ MICROBIOLOGY) &amp; ( Special Microbiology ) FINAL EXAM.</b>			
	COURSE TITLE:	Yeast Biology		COURSE CODE: MB 4101
DATE: 22/1/	January. 2017	TOTAL ASSESSMENT MARKS: 100	TERM: FIRST	Time allowed: 2 hours

**Answer the following questions with drawing if possible:-**

**I- Discuss briefly from the following: 30 Marks**

- a- Classification of the imperfect yeasts.
- b- Clamp connections in yeasts.

**II- Choose one answer:**

**10 marks**

**1- *Candida* is an imperfect yeast causes:**

- a. Cryptococcosis
- b. Candidiasis
- c. Tinea
- d. Non of the above

**2- Fimbriae are involved in :**

- a. Sexual conjugation-
- b. Flocculation-
- c. Asexual reproduction-
- d. Sexual conjugation & Flocculation

**3- Clamp connections found:**

- a. Ascomycetes yeasts
- b. Basidiomycetes yeasts
- c. Imperfect yeasts
- d. All of them


**4- Genomic libraries consist of:**

- a. Large number of *E.coli* clone each of which bearing a particular recombinant plasmid.
- b. Large number of *Candida albicans* clone each of which bearing a particular recombinant plasmid.
- c. Large number of *Candida albicans* and *E.coli* clone each of which bearing a particular recombinant plasmid.
- d. Non of the above

**5- The cell wall components are :**

- a. glucans-
- b. Chitin -
- c. Chitin and Amino sugars
- d. All of the above

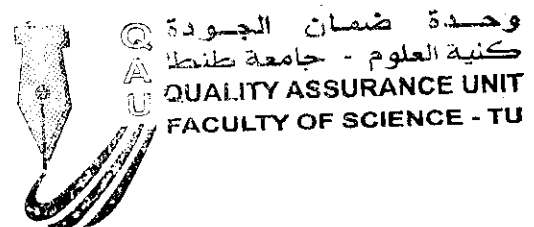
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	<b>Tanta University - Faculty of Science - Botany Department</b>			
	<b>EXAMINATION FOR JUNIOR (4th YEAR SPECIAL MICROBIOLOGY)</b>			
Course Title	الكتابة العلمية والعروض		Course Code: MB 4109	
Date	Jan 2017	Term: First	Total Assessment: 100 Marks	Time Allowed: 2 Hours

أجب على كل من الأسئلة التالية ( ٥ درجات لكل نقطة: المجموع الكلي = ١٠٠ درجة)

- ١- أذكر أهم أنواع الكتابة العلمية؟
- ٢- ما المقصود بالكلمات المفتاحية، وما الهدف منها؟
- ٣- أذكر ثلاثة من أهم مميزات العنوان الجيد؟
- ٤- أذكر ثلاثة من أهم مميزات الملخص؟
- ٥- ما هو الهدف الأساسي من مقدمة أي نوع من الكتابة؟
- ٦- أذكر ثلاثة من أهم ما يجب مراعاته عند الشروع في كتابة النتائج؟
- ٧- وضح كيف تعد المناقشة أصعب الأجزاء في الكتابة؟
- ٨- ماهي أشهر الطرائق المستخدمة في كتابة المراجع؟
- ٩- ما الذي يجب أن يحتويه كلمة الشكر؟
- ١٠- متى يجب، ومتى لا يجب كتابة تفاصيل الطرائق المستخدمة في إعداد البحث العلمي؟
- ١١- متى يكون عرض النتيجة كشكل أفضل من عرضها كجدول؟
- ١٢- أعط مثال للأخطاء الشائعة في الجداول؟
- ١٣- أذكر ثلاثة مما يجب مراعاته عند اختيار الصور لوضعها في البحث أو الكتاب العلمي؟
- ١٤- ما المقصود بمعجم المصطلحات، ومتى يجب كتابته؟
- ١٥- ترتب ورقة الخطأ والتصويب بعدة طرق، أذكر إحداها؟
- ١٦- أذكر أهم فوائد التفكير العلمي؟
- ١٧- ماهي الخطوات الأساسية للمنهج العلمي؟
- ١٨- أذكر مراحل الذاكرة الأربعة، مع التفريق بإيجاز بينها؟
- ١٩- وضح الفرق بين الطرق الشائعة لتذكر المادة العلمية أثناء العرض، مع تحديد أفضلها؟
- ٢٠- عرف التغذية الراجعة، وكيف يمكن التعامل معها بعد العرض؟

Examiner: Dr. Kamal Shaltout



	TANTA UNIVERSITY	
	FACULTY OF SCIENCE	
	DEPARTMENT OF CHEMISTRY	
	Final Examination For Fourth Level Students (Special Microbiology)	
COURSE TITLE: Chromatography		COURSE CODE: CH4171
DATE: 15/1/2017	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2 HOURS

Answer the following questions: Each question (25 marks)

**Question 1: Say true or false and correct false one:**

- Weak base resins show greater selectivity for certain divalent anion.
- Qualitative information about the sample composition is obtained by comparing peak positions with those of standards.
- Reflection measurements using scanners densitometers are so sensitive to variation of thickness and uniformity of surface, so it gives more accurate measurement.
- Substance of higher  $R_f$  in (TLC) have higher retention Time in the corresponding column chromatography.
- Under definite operational condition, the retention time is characteristic for a given compound.
- In (HPLC) small sizes of samples, lead to narrow sharp peaks and good separation.
- In elution development technique an eluent with lower affinity for stationary phase than the sample components is used.
- Chromatofocusing is a zone electrophoresis used for separation of ampholytic compounds according to its pl.
- $Br_2$  vapor is the most famous non specific derivatising agent.
- In (IEF), when the pH of the medium equal to the pl of analyte , its electrophoretic mobility is maximum.
- In (TLC) substance of lower solubility to mobile phase have higher  $R_f$ .
- In column chromatograph resolution increase with increasing length of the column and decrease with increasing diameter.
- The most popular mobile phase used in (SCF) chromatography is  $N_2$ .

**Question 2)**

What is chromatography? Can chromatography identify components? Compare between normal and reversed phase chromatography. What is the different between analytical and preparative chromatography?


**Question 3) Write on only two of the following:**

- Classification of chromatographic methods according to the separation process.
- Definition, compartments, applications, advantages and disadvantage of (GC).
- Describe the term in equation:  $H = A + B/U + CU$ .

**Question 4) Write short notes on four of the following:**

- $R_f$  and  $R_{sf}$ .
- Effect of polarity of sample and eleuent on  $R_f$ .
- Properties of resin for acceptable chromatography.
- Selectivity of ion exchange resins  $K_d$ .
- Advantage and disadvantage of (TLC).

(Good luck)

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	<i>Tanta UNIVERSITY, Faculty of Science, Department of Botany</i>		
	<i>Practical Examination for (Fourth Year) Students of Microbiology</i>		
	COURSE TITLE: Physiology of algae	COURSE CODE: BO4123	
DATE: 18 JAN, 2017	TERM: FIRST SEMESTER	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2 HOURS

**I. Give an account on the following questions: (10 Marks each)**

1. The effect of light on the algal growth
2. Function of carotenoids in Photosynthesis
3. The important of 3 examples of macronutrients in algal growth.
4. Assimilation of glucose in algae
5. The microaerobic environment of Non-heterocystus cyanobacteria
6. Sterilization methods of culture materials.

<b>Answer two questions only from the followings</b>
--

**II. Complete the following questions: (20 marks / 4 marks each)**

1. Chlorophyll is greenish pigments which consists of .....and.....
2. ...., they are the algae occur inside the body of animals; but, algae are found on ice and snow called.....
3. Nitrogenase is a complex of two separately isolated proteins called..... and .....
4. ....is responsible for the red color of rhodophyta and .....is responsible for blue colour in cyanobacteria.
5. Nitrogen fixation required numbers of .....ATP and .....electrons

**III. Compare between the followings: (20 marks / 10 marks each)**

1. Rhodophyta and cyanophyta thylakoid membrane organization
2. Direct and indirect assimilation of acetate.



**IV. Mark the following sentences with (✓) or (X) and correct the wrong ones (20 marks / 4 marks each).**

1. The depth seawater is preferred for seawater base media ( )
2. Oxytrophs algae can utilize acetate in dark or light condition ( )
3. Continues and Batch culture can be applied outdoor ( )
4. Chlorophyll D is found in of the Bacillariophyta ( )
5. Acidic media is depressive for the nitrogen fixation process ( )

*Examiners:*

*Best wishes.....*

<b>Dr. Mostafa Elshobary</b>
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	<b>Tanta UNIVERSITY, Faculty of Science, Department of Botany</b>		
	<b>Practical Examination for (Fourth Year) Students of Microbiology</b>		
	<b>COURSE TITLE: Physiology of algae</b>	<b>COURSE CODE:BO4123</b>	
<b>DATE: 28 JAN, 2017</b>	<b>TERM: FIRST SEMESTER</b>	<b>TOTAL ASSESSMENT MARKS: 100</b>	<b>TIME ALLOWED: 2 HOURS</b>

**I. Give an account on the following questions: (10 Marks each)**

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