	Tanta University Faculty of Science Department of Botany		
EXAMINATION for level 2 Students of Special Microbiology			
Course title:	Economic Botany	Course Code:BO2208	
Date:10/6	2015	Term: second	Total assessment Marks: 100 Time ALLOWED:2 ours

- السؤال الأول: (20 درجة)
- 1- ضع علامة ( √ ) و ( X ) أمام العبارات التالية مع تصحيح الخطأ إن وجد للكلمات التي تحتها خط:
- 1- يستخرج زيت الحار من نبات ال *Viola edorata*..... ( )
  - 2- يستخرج مادة المطاط من نبات ال *Matricaria chamomilla*..... ( )
  - 3- يعتبر نبات ال *Linum* من الأخشاب الجامدة..... ( )
  - 4- تصنع حبال الكابلات البحرية من نبات ال *Juncus spp*..... ( )
  - 5- يستخرج مادة الكهرمان من نبات ال *Cannabis sativa*..... ( )
  - 6- يستخدم زيت نبات ال *Hedeoma spp* في صناعة الصابون البحري..... ( )
  - 7- يستخرج مادة العنصل من نبات ال *Salvia afficinalis*..... ( )
  - 8- يستخرج زيت الشلجم من نبات ال *Eucalyptus spp*..... ( )
  - 9- يستخدم نبات ال *Glycorrhiza spp* في علاج الإسهال..... ( )
  - 10- يستخرج الكافيين من نبات ال *Camellia sinensis*..... ( )

2- السؤال الثاني: أكمل: (20 درجات)

- 1- من أهم أنواع الراتنجات الجامدة..... و..... و..... و..... و.....
- 2- يستخدم مادة كباية في علاج..... و..... و..... و..... و.....
- 3- يستخدم عقار اليمينتين في..... و..... و..... و..... و.....
- 4- يستخدم عقار الكورارين في..... و..... و..... و..... و.....
- 5- من أهم استعمالات الفلين..... و..... و..... و..... و.....
- 6- يستخدم عقار اللوبولين في..... و..... و..... و..... و.....
- 7- من فوائد الزيوت الطيارة..... و..... و..... و..... و.....
- 8- يستخدم عقار كولاتين في..... و..... و..... و..... و.....
- 9- لعلاج حالات الإمساك يستخدم نبات..... و..... و..... و..... و.....
- 10- أهم المواد الفعالة في النباتات الطبية والعطرية هي..... و..... و..... و..... و.....

3- السؤال الثالث: (25 درجة)

- 1- اختر من (أ) ما يناسب من (ب) مع كتابة الاسم الدارج والجزء المستخدم للنباتات في (أ): (15 درجة)
- (أ) 1- *Hedeoma spp* – 2- *Atropa belladonna* – 3- *Eucalyptus globulus* – 4- *Glycorrhiza globra* – 5- *Colchicum spp*
- (ب) 1- استرخاء في العضلات 2- الالتهابات الجلدية الفطرية 3- طارد للحشرات 4- إحداث تمدد إنسان العين
- 5- اضطرابات الأنف والحنجرة 6- قرحة المعدة 7- النقرس 8- الديزونتاريا الأميبية
- 2- ما المقصود ب: (10 درجات)
- الكهرمان – الراتنجات – الصمغ البريطاني – الأحبار الدباغية – الزيوت نصف الجافة


4- السؤال الرابع: تكلم فيما يلي: (35 درجة)

- 1- اذكر (في جدول) اسم النبات الدارج والاسم العلمي (اللاتيني) والجزء المستخرج منه المادة الفعالة وثلاث (3) أهمية اقتصادية للمواد الفعالة الآتية: الفلين – الرايون – الراتنجات – النارولي (20 درجة)
- 2- اذكر مراحل تصنيع المطاط مع ذكر أهم استخداماته وأهم النباتات المنتجة للمطاط. (15 درجة)

انتهت الأسئلة

أستاذ المادة: أ.د. محمد أحمد البحيري

مع تمنياتي لكم بالتوفيق والنجاح

	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF ZOOLOGY		
	EXAMINATION FOR SOPHOMORES (SECOND YEAR) STUDENTS BOT& MICRO		
COURSE TITLE:	Principals of Molecular Genetics	COURSE CODE: Bo 2222	
DATE:	13 JUNE, 2008	TERM: SECOND	TOTAL ASSESSMENT MARKS: 100 TIME ALLOWED: 2 HOURS

**Answer the following questions:**

**Question 1:**

Wright shortly on the following with labeled drawings if possible (35marks)

- 1) Types of RNA.
- 2) Initiation of transcription.
- 3) Base excision repair.
- 4) Watson and Crick model.
- 5) Replication process.

**Question 2:**


Complete the following sentences: (30 marks)

- 1) Insertion is .....while deletion is .....
- 2) Transcription factors are .....
- 3) The first amino acid to be added in prokaryotic protein synthesis is.....
- 4) Photo reactivation is carried out by an enzyme called.....
- 5) The genetic code is .....
- 6) The sigma factor is not firmly bound to the other subunits because .....
- 7) Wobble is the .....
- 8) Anticodon is a.....specifying.....carried on.....
- 9) RNA processing is .....
- 10) Okazaky fragments are formed on .....strand.

**Question 3:**

Discuss each of the following with labeled drawings if possible: (35 marks)

- Differences protein synthesis between prokaryotes and eukaryotes.
- Nucleotide Excision repair
- Point mutation.
- Polypeptide chain termination.
- DNA foot printing.
- Differences between DNA replication and RNA transcription

	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF ZOOLOGY			
	EXAMINATION FOR SOPHOMORES (SECOND YEAR) STUDENTS BOT& MICRO			
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- Differences between DNA replication and RNA transcription



	TANTA UNIVERSITY, FACULTY OF SCIENCE, DEPARTMENT OF BOTANY			
	EXAMINATION FOR SOPHOMERS (LEVEL TWO) STUDENTS OF MICROBIOLOGY			
	COURSE TITLE:	WATER MICROORGANISMS	Course Code: MB2206	
DATE: 1/6/2015	TERM: SECOND	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2 HOURS	

Answer the following questions

### QUESTION ONE

(50 MARKS)

Complete the following spaces with suitable word(s)

- 1- *Vibrio cholera* transmitted through .....(a)....., .....(b)..... and .....(c) .....
- 2- Bacteria commonly associated with diarrheal fecal water pollution are .....(d)..... and .....(e) .....
- 3- Two protozoans commonly associated with diarrheal diseases are .....(f)... and ...(g)...
- 4- .....(h)... are primarily opportunistic pathogens that are safe to ingest in small numbers.
- 5- Even water that appears *pure* must be tested to ensure that it contains .....(I).....
- 6- Three principle goals of biological water treatments are .....(J).....,.....(k)... and ...(L)....
- 7- .....(m)... is the element found in synthetic detergents and used for corrosion control in water supplies.
- 8- In natural systems, mixed bacterial populations grow as .....(n).....
- 9- .....(o)..... , .....(p)..... and .....(Q).....are the main products of anaerobic digestion
- 10- Routes of water infections include..... (r), .....(S).....and ...(T).....
- 11- The microorganisms are added to waste water to use ...(U)..... as food supply
- 12- Tertiary water treatment method is a .....(V)..... method to remove .....(W)..... , .....(X).....and .....(Z).....

### QUESTION TWO

(20 MARKS)

Tick only the wrong sentence(s) and rewrite it in correct form

- 1- Many of microbes present in waste water are harmful.
- 2- Inorganic materials enter wastewater in human wastes, paper product, and cosmetics.
- 3- Low BOD amount can not deplete the natural oxygen resources
- 4- Sludge decomposition require anaerobic bacteria
- 5- Low BOD indicates the presence of excessive amount of organic carbon
- 6- Chlorination is alternative method for ammonia removing
- 7- The water filtration through activated charcoal removes the large number of bacteria
- 8- Fluoride can be used in water treatment.
- 9- Heterotrophic bacteria degrade sewage inorganic compounds for algal growth
- 10- Nitrate and sulfate give rise to noxious odors and colors making water unsatisfactory.

تابع الأسئلة في الخلف

**QUESTION THREE****(15 MARKS)**

**Fill in the space the bacteria found in surface water and their symptoms.**

Bacteria	Symptom(s)
<i>Aeromonas</i>	.....(A).....
.....(B).....	Heavy diarrhea
.....(C).....	Fevers
<i>Streptococcus</i>	.....(D).....
.....(E).....	Kidney damage

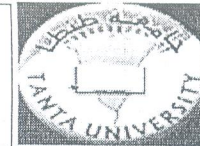
**QUESTION FOUR****(15 MARKS)**

**Identify the followings:**

- 1) BOD
- 2) Nitrification
- 3) Indicator organisms
- 4) Eutrophication
- 5) Coliform bacteria

*Best Wishes*

Examiners	Dr. Sameh Samir Ali
	Prof. Dr. Samah Dewedar



امتحان الفصل الدراسي الثاني للفرقة الثانية ميكروبيولوجي خاص

Course Title:	Fundamental and Applied Ecology	Course Code: BO 2220
June 6 , 2015	Term: Second	Total assessment marks: 150
		Time Allowed: 2hour

الجزء الأول: العوامل البيئية

السؤال الأول: ضع علامة (√) أو (x) أمام العبارات التالية، مع تصويب الخطأ (١٠ درجة)

١. في الغلاف الجوى يمتص غاز الهيدروجين معظم الأشعة فوق البنفسجية ( )
٢. يتم التخلص من الماء الهيجروسكوبى بتجفيف التربة فى الهواء ( )
٣. الماء الشعري ينفذ إلى الطبقات السفلى من الأرض ( )
٤. بكتيريا النوشادر تقوم بتحويل المواد النيتروجينية إلى نترات ( )
٥. الوطاء الشديد للحيوانات يسبب زيادة كثافة الغطاء النباتى ( )

السؤال الثاني: أكمل الفراغات بالعبارات المناسبة (٢٠ درجة)

١. الوسائل التى تستخدمها النباتات المتسلقة هى ..... و ..... و ..... و .....
٢. فى الأشن يحصل الفطر على ..... بينما يحصل الطحلب على .....
٣. أهم الخواص التى تميز النباتات ذات القدرة التنافسية العالية ..... و ..... و ..... و .....
٤. مكونات التربة هى ..... و ..... و ..... و .....
٥. تتوقف فاعلية المطر على عدة عوامل أهمها ..... و ..... و ..... و .....

السؤال الثالث: اختر الإجابة الصحيحة من بين الأقواس (١٥ درجة)

١. صبغة الأنثوسيانين تكون مركزة فى (الحزم الوعائية – القشرة الخارجية – النخاع )
٢. معظم بخار الماء يوجد فى طبقة (الثيرموسفير – التروبوسفير – الأكوسفير)
٣. التاج الأرضى يتكون نتيجة تطاير ( الأوكسجين – ثانى أكسيد الكربون – الهيدروجين)
٤. عملي الإرباع عبارة عن ( تعجيل – إبطاء – تثبيت) النمو بمعاملة باردة
٥. من صور التفاعلات الموجبة ( الإقتراس – التكافل – الإفراز المثبط)

السؤال الرابع: أكتب ما تعرفه عن (٣٠ درجة)

١. تأثير الرياح على النباتات
٢. درجة الحرارة و النباتات
٣. المبادئ العامة التى تحكم نشاط الكائنات الحية

باعتكيسة من خلف

باقى الأسئلة فى الصفحة التالية

### الجزء الثانى: حركية النظام البيئى

السؤال الأول: عرف كلا مما يأتى (٢٠ درجة)

- ١- المستهلكات الأولية ٢- السعة الحملية ٣- العمر الحقيقي ٤- معدل البناء الصافي
- ٥- الشبكات الغذائية

السؤال الثانى: ضع علامة (√) أو (x) أمام العبارات التالية، مع تصويب الخطأ (٢٠ درجة)

- ١- التوزيع المنتظم يحدث بشكل نادر فى الطبيعة ( )
- ٢ - هرم الكتلة يعتمد على عدد الكائنات الحية فى مساحة محددة من النظام البيئى ( )
- ٣- يدل وجود أعداد كبيرة من الأفراد حديثة العمر على أن الجماعة متزايدة ( )
- ٤- المحلات تعمل على تحويل المادة من صورتها غير العضوية الى الصورة العضوية ( )
- ٥- تستهلك المنتجات فى النظام البيئى الأرضي قدر أقل من الطاقة عنها فى النظام البيئى المائي ( )

السؤال الثالث: أكمل (١٥ درجات)

- ١ - يتكون المكون الحى للنظام البيئى من .....
- ٢ - مصدر الطاقة الرئيسى هو.....
- ٣ - تعرف الشبكات الغذائية أنها.....
- ٤ - المستهلكات الأولية تشغل المستوى الغذائى..... بينما تشغل المستهلكات الثانوية المستوى.....
- ٥ - دورة الفوسفور هى دورة..... بينما دورة النيتروجين فهى.....

السؤال الرابع: ناقش كلا من (٢٠ درجات)

- ١- أهمية ظاهرة الهجرة (١٠ درجات)
- ٢- دورة عنصر الأكسجين (١٠ درجات)

أطيب الأمنيات بالتوفيق

د. داليا عبد العظيم

د. رجب الفحار

أساتذة المادة:





TANTA UNIVERSITY  
FACULTY OF SCIENCE  
BOTANY DEPARTMENT



امتحان الفصل الدراسي الثاني للفرقة الثانية ميكوبيولوجي خاص

Course Title:	Crop plants	Course Code: Bo 2210
25, May, 2015	Term: Second	Total assessment marks: 100
		Time Allowed: 2hour

السؤال الأول: ضع علامة (✓) أو (x) أمام العبارات التالية، مع تصويب الخطأ (٣٠ درجة)

- ١- من أضرار الحشائش نقل عدوى بعض الآفات ( )
- ٢- كلما زادت الرطوبة في الجو كلما زاد الاحتياج المائي للنبات حيث يزيد معدل النتج ( )
- ٣- المحاصيل النيلية هي التي تزرع في أواخر الشتاء وخلال فصل الربيع ( )
- ٤- تعد التربة الصفراء هي الأنسب للزراعة ( )
- ٥- محاصيل الغلال هي المحاصيل التي تزرع لكي تستهلك وهي خضراء أو محفوظة في غذاء الحيوانات ( )
- ٦- لا يؤثر الضوء على نمو المحاصيل ( )

السؤال الثاني: ناقش فائدة اتباع الدورات الزراعية في تنظيم عمل المزرعة (١٠ درجات)

السؤال الثالث: وضح ما يأتي (٣٠ درجة)

- ١- أهمية الماء لنمو المحاصيل (١٠ درجات)
- ٢- خصائص التربة الطينية وكيفية تحسينها لكي تصبح أكثر ملاءمة للزراعة (١٠ درجات)
- ٣- أسباب تواجد الأراضي القلوية (١٠ درجات)


السؤال الرابع: (٣٠ درجة)

- ١- ماهي العوامل التي تصمم الدورات الزراعية على أساسها (اذكر ٣ منها) (١٠ درجات)
- ٢- الصفات المميزة للحشائش (اذكر ٤ منها) (١٠ درجات)
- ٣- الشروط التي يجب توافرها في التقاوي الجيدة (اذكر ٣ منها) (١٠ درجات)

Examiners	Prof. Alaa AbuZeid	Dr. Dalia Abd El-Azeem Abd El-Azeem Ahmed
	Prof. Awatef Mohsen	



میدیکر بیولی

	<p style="text-align: center;">TANTA UNIVERSITY</p> <p style="text-align: center;">FACULTY OF SCIENCE</p> <p style="text-align: center;">DEPARTMENT OF BOTANY</p>			
	<p style="text-align: center;">EXAMINATION for Sophomores (Second Year) students OF BIOLOGY</p> <p style="text-align: center;">(Special microbiology)</p>			
	<p>COURSE TITLE:</p>	<p>Food Microbiology</p> <p>(Theoretical exam)</p>	<p>COURSE CODE:</p> <p>MB2204</p>	
<p>DATE: 30/5/2015</p>	<p>May: 2015</p>	<p>TOTAL ASSESSMENT MARKS: 150</p>	<p>TERM: second</p>	<p>Time allowed: Two hours</p>

**Answer the following questions:**

**1-Write briefly on: (40 marks)**

- a- Emulsion (mention an example).
- b- Two types of molds responsible for post harvest diseases.
- c- Types of browning.
- d- Canning as a method of food preservation.

**2- Compare between: (40 marks)**

- a- Staphylococcal poisoning and Hepatitis A virus.
- b- Absorption and hydrolytic rancidity.
- c- Role of amylase and cellulase fungal enzymes in food spoilage.
- d- Aflatoxin and fumonisins.

**3- Complete: (45 marks)**

- a- Food chemistry is.....
- b- Norovirus is .....stranded, While rotavirus is..... stranded.
- c- Food processing is .....
- d- ..... is responsible for dates spoilage, While ..... is responsible for figs spoilage.
- e- .....is a phospholipid emulsifier found in eggs and soybean oil.
- f- Contaminated food with *Salmonella* is ..... and .....
- g- Contaminated food with *Toxoplasma gondii* is .....and .....
- h- .....oils found in flax seeds are important food sources of polyunsaturated fatty acids in our food supply.
- i- Spoilage action of ..... is the destruction of vitamin C in vegetables.

**4- Give reason for: (25 marks)**

- a- Eggs and dried pasta look different when cooked.
- b- Investigating and reporting of food borne illnesses
- c- Effective hygiene control of food treatment.

Best wishes.....Examiners

Prof. Dr. Metwally Abd El Azeem  
Dr. Nessma El Zawawy

مدى بيولوجى ٥١٢



TANTA UNIVERSITY, FACULTY OF SCIENCE, BOTANY DEPARTMENT



Final Examination for Sophomores Students (Special Microbiology)

Course title:	PHYCOLOGY		Course Code: BO22044
DATE: 26/MAY/ 2015	TERM: SECONDS	TOTAL ASSESSMENT MARKS: 150	Time Allowed: 2 hours

**I- Choose the correct answer for each of the following: - (30 Marks)**

- 1 - Algae means .....  
a. sea weeds      b. lichens      c. archegoniate      d. lower plants
- 2 - Multinucleate siphonaceous alga is .....  
a. *Oscillatoria*      b. *Vaucheria*      c. Diatom      d. nothing
- 3 - The algae with prokaryotic organization belong to the kingdom .....  
a. Protista      b. Plantae      c. Monera      d. Mycota
- 4 - The alga is an example of heterotrichous habit is.....  
a. *Nostoc*      b. *Scytonema*      c. *Rivularia*      d. Nothing
- 5 - Heterocyst present in .....  
a. *Nostoc*      b. *Oscillatoria*      c. Viruses      d. All
- 6 - Terrestrial algae live on .....  
a. fungi      b. tree trunk      c. damp soil      d. animal
- 7 - Oil chrysolaminarin and volutin are food reserves of.....  
a. Desmids      b. *Diatoms*      c. Green algae      d. Brown algae
- 8 - Algae live in association with fungi in.....  
a. plant      b. archegoniate      c. lichens      d. nothing
- 9 - Euglenophyta are classified as .....  
a. Animals      b. plants      c. animals and plants      d. Fungi
- 10 - The members of the class Myxophyceae are characterized by.....  
a. Motile stages      b. Sexual reproduction      c. Flagella      d. incipient nucleus
- 11 - The algae with prokaryotic organization belong to the kingdom.....  
a. protista      b. Mycota      c. monera      d. planta
- 12 - ..... is motile unicellular alga  
a. *Volvox*      b. *Nostoc*      c. *Chlorella*      d. *Chlamydomonas*

م. محمد عبد الله

13 - In which of the following the daughter cells produced as a result of division are unequal .....

- a. Chlorophyceae      b. Phaeophyceae      c. Bacillariophyceae      d. nothing

14 - Plastids are absent in the member of class .....

- a. Chlorophyceae      b. Phaeophyceae      c. Bacillariophyceae      d. Myxophyceae

15 - Food reserves of Euglenoids consists of.....

- a. starch      b. glycogen      c. paramylon      d. oil

**II - Put sign (✓) opposite the right answer and sign (X) opposite the wrong**

**answer and correct the wrong answer:-**

**(25 Marks)**

- |  |           |
|--|-----------|
| 1 - False branching is characteristic of <i>Stigonema</i>      | (      ). |
| 2 - Cyanobacteria reproduce by sexual reproduction             | (      ). |
| 3 - Cell wall of cyanophyta composed from cellulose            | (      ). |
| 4 - Heterocysts present in all members of order Nostocales     | (      ). |
| 5 - Vaucheria is multicellular organism                        | (      ). |
| 5 - Auxospores formation are exhibited by <i>Volvox</i>        | (      ). |
| 6 - Planktons mean the algae which can live on the rocks       | (      ). |
| 7 - Euglena reproduces by isogametes                           | (      ). |
| 8 - The life cycle of diatoms are haploid                      | (      ). |
| 9 - <i>Volvox</i> is primitive colony                          | (      ). |
| 10 - All members of cyanobacteria can fix atmospheric nitrogen | (      ). |
| 11 - <i>Pandorina</i> is motile colony                         | (      ). |
| 12 - <i>Euglena</i> in presence of light is autotrophic        | (      ). |
| 13 - The life cycle of Diatom is diploid                       | (      ). |
| 14 - <i>Oscillatoria</i> is prokaryotic cyanobacterium         | (      ). |
| 15 - <i>Chlamydomonas</i> is eukaryotic green alga             | (      ). |

**III - Choose the correct answers for each of the following: -**

**(15 Marks)**

- 1 - Cell wall of Cyanobacteria consists of ..... and .....
- 2 - Filament of *Nostoc* consists of ....., ..... and .....



- 3 - The false branching present in ..... while true branching present in .....
- 4 - Heterocysts are classified according to position into ..... and .....
- 5 - Algae reproduce by ....., ..... and .....
- 6 - The reserve food material in *Volvox* is ..... while the storage food material in *Nostoc* is .....
- 7 - The dominant pigment in Cyanobacteria is .....while dominant pigment in Rhodophyta is .....
- 8 - The functions of heterocyst are ....., ..... and .....
- 9 - The life cycles in algae differentiated into ....., ....., ..... and .....
- 10 - The Palmella stage formed in ..... during ..... under .....
- 11 - According to aquatic habitat, the algae are classified into....., ..... and .....

**IV - With drawing representation, illustrate the life cycle in *Vaucheria*. (5 Marks)**

**V - Write short notes on the following with labeled drawing: (30 Marks)**

- a- Life cycle of *Laminaria*
- b- Compare between the distinguishing characters of Phaeophyta and chlorophyta
- c- Cell division in *Oedogonium*.

**VI - Complete the following: - (30 Marks)**

- a- In the basal part of *Batrachospermum* carpogonium swollen and contain ....., however the upper part elongated to form ..... to receive .....
- b- The spermatozooids reach near the female cells in the.....species of *Volvox*, but near the female colony in the.....species.
- c- Palmella stage in *Chlamydomonas* mean.....
- d- *Ulothrix* reproduce by ....., ..... and .....  
*Fucus* is member of division .....and class .....
- e- The division of Rhodophyta consists of two classes ..... and .....  
Asexual reproduction of *Batrachospermum* by mean of ..... to give .....
- f- *Oedogonium* are grouped in two categories on the basis of size ..... and .....

g- In *Ectocarpus* haploid zoospore are formed in ....., whereas diploid zoospore are formed in .....

h- The gametes of order Conjugales are ..... in shape

**VII - Answer the following questions with TRUE or FALSE and CORRECT the**

**false one:**

**(15 Marks)**



- 1- The reserved food in brown algae is floridean starch. ( ).
- 2- There is meiotic division in the zygote of *Ectocarpus*. ( ).
- 3- The common type of reproduction in *Spirogyra* was conjugation. ( ).
- 4- Polyhydrion stage produced from asexual reproduction of *Hydrodictyon*. ( )
- 5- The life cycle of *Fucus* include sporophyt and gametophyte. ( ).
- 6- Brown algae motile cells have two equal whiplash type flagella. ( ).
- 7- Motile phase absent during life cycle of Rhodophyta. ( ).
- 8- *laminaria* species is member of class isogeneratophyceae. ( ).
- 9- Life cycle of *Batrachospermum* is haplobiontic. ( ).
- 10- *Chlorella* reproduces sexually by zoospore. ( ).

**Examiners:**

Prof. Dr. Atef Mohamed Abo-Shady

Dr. Shiamaa Adel El-Shafay

With our best wishes .....

	TANTA UNIVERSITY, FACULTY OF SCIENCE, DEPARTMENT OF BOTANY			
	EXAMINATION FOR SOPHOMERS (LEVEL TWO) STUDENTS OF MICROBIOLOGY			
	COURSE TITLE:	PRINCIPLES OF BACTERIOLOGY	Course Code: MB2202	
DATE: 23/5/2015	TERM: SECOND	TOTAL ASSESSMENT MARKS: 150	TIME ALLOWED: 2 HOURS	

Answer the following questions

### QUESTION ONE

(50 MARKS)

Complete the following spaces with suitable word(s)

- 1- .....(a)..... is a group of bacteria that lack cell wall.
- 2- In Gram-negative bacteria the .....(b)..... is considered as part of cell wall.
- 3- The host has various degrees of ...(c)..... to the pathogen which has its determinants of .....(d).....
- 4- The modified tetanus form called .....(e)....., which has lost its ...(f)..... but retains its .....(g).....
- 5- LPS (endotoxin) consists of .....(h)....., .....(i)..... and .....(j).....
- 6- Microorganisms that require 15-30% NaCl are called .....(k)..... and found among .....(L).....
- 7- The membranes of hyperthermophiles composed of repeating subunits of ...(m).....
- 8- Psychrophilic bacteria are adapted to their cool environment by having .....(n)..... in their plasma membranes. But thermophiles are adapted high temperatures by having .....(o)..... in their DNA.
- 9- .....(p)..... require a very small amount of oxygen
- 10- Element ... (q)..... is component of endospore
- 11- In catastrophic death, no .....(r)..... phase
- 12- .....(s)..... is a precursor for the biosynthesis of folic acid.
- 13- Electronic counting chambers depend on .....(t)..... of the cell
- 14- Bacitracin is a .....(u)..... antibiotic, with mode of action that.....(v)..... cell wall growth
- 15- Archaea never contain.....(w)..... in their cell walls.
- 16- Acquired resistance is driven by two genetic processes in bacteria: ...(x)..... and ...(z)...

### QUESTION Two

(30 MARKS)

Tick only the wrong sentence(s) and rewrite it in correct form

- 1- Phosphorus is a constituent of teichoic acids
- 2- Bacteria do not always swim aimlessly but are attracted by such nutrients such as sugar and amino acids, and are repelled by harmful substances and bacterial waste products. Movement toward chemical attractants and away from repellents is called Tumbling.

تابع الأسئلة فى الخلف



- 3- Flagella and pili are organs of bacterial locomotion
- 4- A biofilm is a detectable virulence factor observed in many pathogenic *P. aeruginosa*
- 5- Fimbriae are found in Gram-positive and Gram-negative bacteria
- 6- Lag phase is fixed for all bacterial growth
- 7- Synthetic medium is one with unknown chemical composition
- 8- Infection does necessarily lead to infectious disease
- 9- All bacteria are not flagellated
- 10- Chloramphenicol is selective for 80s ribosomes and does not affect 70s ribosomes

### **QUESTION THREE**

**(30 MARKS)**

**Fill in the space the characteristics of typical bacterial cell structures.**

Structure	Chemical composition	Function(s)
Ribosomes	...(a).... and ...(b)...	.....(c).....
.....(d).....	variable	functioned under stress or starvation conditions
.....(e).....	.....(f).....	extrachromosomal genetic material
.....(g).....	.....(h).....	mediate DNA transfer during conjugation
Gram-positive cell wall	.....(i).....	...(k)..... and ...(m).....
.....(n).....	.....(o).....	associated LPS for permeability barrier
.....(p).....	.....(Q).....	swimming movement

### **QUESTION FOUR**

**(20 MARKS)**

**Mention with drawing (if possible) the followings:**

- 1) Dental Plaque mechanism
- 2) Sulfonamides competitive inhibitors
- 3) Different mechanisms of antibiotic resistance in bacteria
- 4) The ultrastructure of a bacterial flagellum

### **QUESTION Five**

**(20 MARKS)**

**Compare between:**

- 1) Different types of bacterial cell walls in (thickness, lipid, teichoic acid, protein, lysozyme)
- 2) Methods used to measure bacterial growth (direct microscope, viable count, turbidity, weight, total N)

*Best Wishes*

Examiners	Prof Dr. Wagih A. El-Shouny
	Dr. Sameh Samir Ali