	امتحـــان الفصل الدراســـــي الثاني لطلاب كلية العلوم للعـــام الجامعـــي ٢٠١٥-٢٠١٦	

القسم الذي يقدم المقرر: الوراثة — الفرقة: المستوى الثاني (ساعات معتمدة)

اسم المادة: (٢١٥ ز) أساسيات الوراثة — الزمن: ساعتان

لجنة الممتحنين: د/ بهاء الدين السيد عبد الفتاح — د/ محمود أبو السعود الراوي

تعليمات الامتحان

١- يتكون الامتحان من أربعة أسئلة — ٢- يتكون الامتحان من صفحتين

٣- فكر جيدا قبل ان تجيب عن الاسئلة، ولا تجعل قلمك يسبق فكرك — ٤- الدرجة الكلية للامتحان (٥٠ درجة)

أجب عن جميع الأسئلة الآتية

السؤال الاول:- :- (١٣ درجة)

(أ) - في التلقيح الإختباري التالي لإناث حشرة الدروسوفيلا الخليطة في ثلاث مواقع كان النسل الناتج كالتالي (٧ درجات)

$$\frac{A\ B\ C}{a\ b\ c} \times \frac{a\ b\ c}{a\ b\ c}$$

A	B	C	380
a	b	c	322
A	b	c	105
a	B	C	120
A	B	c	36
a	b	C	28
A	b	C	6
a	B	c	3
المجموع الكلي			1000

المطلوب :-

١- حساب المسافة بين الجينات الثلاثة.

٢- ارسم الخريطة الوراثية.

٣- احسب معامل التوافق ومعامل التعارض.

(ب) -

١- ما هو عدد الاحماض الأمينية الناتجة من ترجمة خيط الـ mRNA المنسوخ من خيط الـ DNA المكمل لخيط الـ DNA التالي CGC ATG TCA AAG CCT GCG TAT AAC GGT TGA CGC ؟ (٣ درجات)

٢- جزئ DNA يحتوي على 400.000 زوج من القواعد فما هوطول هذا الجزئ وكم عدد اللفات بهذا الجزئ وعدد النيوكليوتيدات؟ وإذا كانت نسبة A+G / T+C في أحد خيطي هذا الجزئ تساوي 0.4 فما هي نفس نسبة A+G / T+C في الخيط المكمل؟ (٣ درجات)

السؤال الثاني:- وضح بالرسم مع كتابة البيانات فقط ما يلي : (١٢ درجة)

(أ) - مراحل تفاعل البلمرة المتسلسل Polymerase chain reaction (PCR). (٣ درجات)

(ب) - تجربة تثبت أن الـ RNA هو المادة الوراثية في بعض الفيروسات. (٣ درجات)

(ج) - القص المتنوع لجين الكالسيتونين في الفئران. (٣ درجات)

(د) - نظام الـ Lac Operon في بكتريا الـ *E. coli* في حالة وجود وغياب سكر اللاكتوز. (٣ درجات)

انظر خلفه

السؤال الثالث:- في جدول انقل فقط رقم العبارة من العمود (أ) والحرف للعبارة المناسبة من العمود (ب) ؟ (١٥ درجة)

	(أ)		(ب)
1	انزيم الهليكيز	A	تضاعف DNA الكروموسوم (السلسلة المتأخرة)
٢	النسبة ١ : ٢ تمثل حالة	B	التفوق المتنحي
٣	النسبة ٤ : ٣ : ٩ تمثل حالة	C	نوع الجنس في الدروسوفيلا (إناث فائقة)
٤	Primase	D	نوع الجنس في الدروسوفيلا (ذكور)
٥	SSB proteins	E	يخلق بادئات RNA قصيرة
٦	DNA.polymerase II	F	وهو يوجد أساسا في النوية ويقوم بنسخ الجينات الخاصة بإنتاج الـ RNA الريبوسومي rRNA
٧	RNA polymerase II	G	يلعب دوراً هاماً في اصلاح الأخطاء التي تحدث اثناء التضاعف
٨	نسبة X/A=٥/٤	H	تعمل علي تثبيت سلاسل الـ DNA المفردة أثناء التضاعف
٩	إنزيم البلمـرة - α	I	جينات مميتة متنحية ذات أثر مظهري سائد
١٠	RNA polymerase I	J	وهو يوجد في النواة ويقوم بنسخ الجينات المشفرة للبروتين.
١١	نسبة X/A= ١/٢	K	التقنية تستخدم في الكشف عن وجود خيط معين من الـ RNA
١٢	reverse transcriptase	L	تقنية تمكننا من التعرف على مقطع معين من الـDNA أو جين معين
١٣	Southern blotting	M	يقوم بنسخ جزئيات الـ RNA الفيروس حيث تعمل كقالب لتخليق خيط مفرد من الـ DNA
١٤	Exones	N	المناطق الشفرية التي يتم ربطها ببعضها في جزيئ mRNA الناضج
١٥	Northern blotting	O	يعمل علي فك سلاسل الـ DNA عن بعضهما في خيط الـ DNA المزدوج

السؤال الرابع: (١٠ درجة)

ضع علامة (√) امام العبارة الصحيحة وعلامة (X) امام العبارة الخاطئة (قم بعمل جدول في كراسة الإجابة به رقم الجملة فقط والعلامه المناسبة)

1	يصبح الـ mRNA جاهز لعملية الترجمه بعد إزالة مناطق الـ Entron وربط مناطق الـ Exon	( )
٢	تتحور النسبة المندلية من ٩ : ٣ : ٣ : ١ في حالة الجينات متماثلة التاثير إلي النسبة ١٥ : ١	( )
٣	يحتاج الـ DNA لفك الروابط بين القواعد النيتروجينيه طاقة أعلى إذا كانت نسبة الـ A + T أكبر من نسبة الـ G + C	( )
٤	يحدث نسخ للجينات التركيبيه في حالة نمو بكتريا الـ Ecoli على بيئه بها سكر الجلوكوز	( )
٥	الصفات التي تنتقل من الذكور لأبنائها الذكور مباشرة تعرف باسم الوراثة التصالبية	( )
٦	النيوكليوتيده عباره عن (قاعده نيتروجينيه + سكر خماسي + مجموعة فوسفات)	( )
٧	نظام تحديد الجنس في نبات الأسبرجس نظام بيئي	( )
٨	يعمل إنزيم البيمره (α)على تضاعف DNA الميتوكندريا في الكائنات حقيقية النواه	( )
٩	التهجين بين نباتات ♂ S_2S_3 مع نباتات ♀ S_3S_4 يعطي نسل بنسبة ١٠٠% في حالة سلسلة اليلات عدم التوافق الذاتي	( )
١٠	القص المتنوع لجزئ الـ RNA يعني تكوين نوعين أو أكثر من الـ mRNA	( )
١١	فرد خليط لاربعة أزواج من العوامل الوراثية يعطي ثمانية أنواع من الجاميطات	( )
١٢	الصفات المحدده بالجنس تعني ظهور هذه الصفات في جنس دون الجنس الآخر	( )
١٣	النسبة ١ : ٣ : ١٢ تمثل الجينات المكملة والتي يلزم لإظهار صفاتها أليل سائد من كل موقع وراثي على الأقل	( )
١٤	شكل العرف في الدجاج حاله من حالات التحور في النسب المندلية برغم ظهور نفس النسبة ١ : ٣ : ٣ : ٩	( )
١٥	تحديد الجنس في الدروسوفيلا يعتمد على النظام الكروموسومي ZW	( )
١٦	يستخدم للكشف عن بروتين معين داخل الخلية تقنية Northern blotting	( )
١٧	شفرة البدء هي AUG بينما شفرات الايقاف هي UAA, UAG, UGG	( )
١٨	تكون نسبة الاتحادات الجينية الجديدة في حالة الارتباط التام هي ٥٠%	( )
١٩	تجهيز الـ mRNA يتضمن تغطية الطرف 3` بإضافة المركب (7-methyl guanosine triphosphate)	( )
٢٠	التلقيح العادي والتلقيح العكسي يعطي نتائج متماثلة في حالة الصفات المرتبطة بالجنس.	( )

إنتهت الأسئلة مع أطيب التمنيات بالتوفيق،،

لجنة الممتحنين:- د/ بهاء الدين السيد عبد الفتاح

د/ محمود أبو السعود الراوي

Faculty of Science	**Final Exam (second term)** **2015/2016**	
Botany & Microbiology Department	**Molecular Biology (212B)** **(Credit hours)**	**Time allow:** **2 hours**

Answer the following:

[Total 50 marks]

Q1: Complete the following statements (12 only): (12 marks)

1- In DNA, the purines are ……,…… and pyrimidines are ……,……

2- RNA synthesis begins at a ……in the DNA and ends at a ……

3- The initiation complex in translation consists of ……,……,…… and ……

4- The gene vectors are ……,…… and ……

5- In eukaryotic cell, the DNA transcribed into mRNA in the ……

6- The enzyme used in synthesis of cDNA is ……

7- …… are equipped with restriction-modification system to protect them against invading viruses.

8- Nucleosomes are found in …… organisms.

9- In DNA replication, the …… strand is formed in the form of Okazaki fragments that are ligated later by ……

10-…… Is the technique that utilizes probes to detect specific DNA fragment.

11- DNA nucleotide consists of …… , …… and …… .

12- Naming of restriction enzyme is based on …… , …… and strain from which this enzyme was isolated.

13-In PCR, selection of the target DNA is achieved through the use of ……

14- DNA sequencing by Sanger method requires ……,……,…… , …… and……

Q2: What is meant by the following abbreviations: (8 marks)

1- DNA ……
2- ddNTPs ……
3- PCR ……
4- RFLP ……
5- ORF ……
6- BAC ……
7- Ori ……
8- tRNA ……

Q3: Give the biological function for <u>TEN only</u> of the following: (10 marks)

A- Primase .....
B- Ligase .....
C- Sigma factor .....
D-RNA polymerase .....
E-m-RNA .....
F-Rho-factor .....
G-Transcription .....
H-Gene cloning .....
I-Hybridization .....
J-Taq-DNA polymerase .....
K-Gyrase .....
L- Restriction enzymes .....

Q4: Put (√) or (X) and correct the wrong ones: (10 marks)

1- Cosmids are suitable for carrying 200 kbp of foreign DNA insert ( )
2- In prokaryotes, the mRNA is usually polycistronic ( )
3- The cDNA has promoter region ( )
4- Restriction enzymes make double-stranded cuts within the phosphate-sugar backbone of recognition sequence. ( )
5- DNA is a polymer of nucleotides. ( )
6- Transcription means the synthesis of mRNA, tRNA or rRNA. ( )
7- P-site is the site where the new AA-tRNA first attaches. ( )
8- DNA has positive charge. ( )
9- In PCR, the *Tag* DNA polymerase can add nucleotides at 94°C . ( )
10- In DNA replication, no primer is needed for the initiation of replication. ( )

Q5: Give the requirements for <u>FOUR only</u> of the following: (10 marks)

1. DNA replication
2. Southern blot
3. Gene cloning
4. RT-PCR
5. Selection of right clone

Best Wishes Dr. Naeima Yousef

Assiut University - Faculty of Science - Botany Department

Final Examination (2015 – 2016) Time allowed: 2 hours

Taxonomy of Flowering Plants (SECOND LEVEL) - (232 N)

ANSWER THE FOLLOWING QUESTIONS (50 degrees):

I- Complete 10 ONLY of the following ..... (10 marks).

1. Classification systems could be classified into: ..... and .....
2. A condition when anthers and filaments are fused is known as .....
3. Primitive flower is characterized by ....., ..., ..., ...
4. Types of schizocarpic fruits are ....., ..., ...
5. Perianth of Nyctaginaceae is ....., while the fruit is .....
6. Stamens of Malvaceae are..... and in Papilionaceae, they are .....
7. The stem of Cyperaceae is ....., ..., and the leaves are..... and .....
8. When petals are not overlap each other, the aestivation is called .....
9. Perianth of Chenopodiaceae is ...., stamens are .....and the fruits are .....
10. In Asteraceae, the calyx is ..... and is called ....., stamens are ..... and the fruits are .....
11. If the sepals are colored, it is known as .....
12. If the number of stamens is equal to the number of sepals and petals and arranged in one whorl, it is known as .....

II- Compare between the following pairs (Chose 5 ONLY) .... (20 degrees, 4 degrees each).

1. Fleshy and dry fruits (give examples).
2. Magnoliopsida (Dicotyledoneae) and Liliopsida (Monocotyledoneae).
3. Families of Order Liliales.
4. Inflorescence, Perianth, Gynoecium and Fruits of Apocynaceae and Gramineae.
5. Stamens, Gynoecium, Fruits and economic plants of the subfamilies Rosoideae and Pyroideae.
6. Inflorescence, Stem, Leaves and Gynoecium of Apiaceae and Lamiaceae.
7. Inflorescence, Corolla, Androecium and Fruits of Geraniaceae and Bignoniaceae.

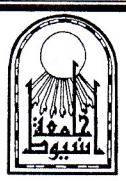
بقيـــة الأسئلـــة علـــى الصفحـــة التاليـــة »»»»»»»»»»»»»»»»

III- A. Write short notes on 4 ONLY of the following ……. ……. (12 degrees, 3 degrees each).

1. **Pollination.**
2. **Gynoecium and generation of female spores and gametes.**
3. **Development of racemose inflorescences.**
4. **Aggregate fruits.**
5. **Family Cruciferae.**
6. **Family Scrophulariaceae.**

B. Give the scientific name of TWO economic plants of the following families ……. (8degrees).
Caesalpiniaceae, Convolvulaceae, Caryophyllaceae and Solanaceae.

أستاذه المادة: أ.د. زينب احمد رضا الكريمى

Faculty of Science Botany& Microbiology Department		كلية العلوم قسم النبات والميكروبيولوجى
Bacteriology (271 B) Time: Two hours Total degree: 50 marks	Summer semester exam - the academic year 2015/2016 Second Level Exam date: Saturday, 27/08/2016	

Answer all the following questions:

The first question: Describe **five only** of the following: **(20 marks)**

1. Structure of Gram positive and negative cell wall
2. Ultra-structure of flagellum and movement of bacterial cell
3. Dynamics of bacterial growth curve phases
4. Effect of oxygen on bacterial growth
5. Structure and function of nitrogenase enzyme
6. Types of culture media

The second question: Compare between **three only** of the following: **(10 marks)**

1. Bacteria, Eucaryots and Archaea
2. Transduction and transformation
3. Methods for measurement of cell mass and cell number
4. Capsule and slime layer

The third question: choose the correct answer: **(5 marks)**

1. **Which of the following is not the characteristic of a growth curve?**
   - A. Shows development of microbial population under relatively stable environmental conditions
   - B. Plotted with logarithmic numbers
   - C. Graphs numbers of microbes versus time
   - D. Each growth curve consists of four distinct phases
2. **Generation time of *Escherichia coli* is**
   - A. 20 minutes
   - B. 20 hours
   - C. 20 days
   - D. 200 hours

باقى الأسئلة بالخلف

3. **The organism which obtain their energy from chemicals are designated as**

A. prototrophs

B. chemotrophs

C. organotrophs

D. autotrophs

4. **Nutrient content and biological structures are considered as**

A. implicit factor for microbial growth

B. intrinsic factor for microbial growth

C. processing factor

D. none of the above

5. **The organism which grows best above 45°C are called**

A. psychrophilic

B. mesosphilic

C. thermophilic

D. any of these

The Fourth question:

(15 marks)

a. **Explain the process of endospore formation in bacteria.**
b. **Discuss the chemolithotrophic group of bacteria.**
c. **How are bacteria classified According to their morphology?**

Good luck

Dr./ Amal Danial

Assiut University
Faculty of Science
Botany & Microbiology Dept.

Date: Sept. 1, 2016
Time allowed: 2 hour
Total marks: 50

First Semester Final Examination (Advanced Virology) **Course: 281 B**

Students: Third Level Students *Examiner: Dr. Nermien Helmy Seddek*

General instruction: Answer All Questions (A, B and C):

A- Choose the Correct Answer and transfer the suitable word to your paper (ONLY 5 item): (10 marks)

1- There are two types of IgA, one of them similar to (IgG – IgM – IgE) molecule.

2- (INF – immune cells - lymphocytes) increase the ability of uninfected host cells to resist new infection.

3- Fusiform crystalline inclusion bodies appear with (TMV- Red clover mosaic- other) virus.

4- (Amniotic - Allantoic) cavity inoculation used for hepatitis viruses' diagnosis.

5- (IgG – IgM – IgE) molecule has elongated shape.

6- Direct virus diagnosis depends on the detection of viral (RNA- antibodies- protein) in specimen taken from the site of infection.

B- Answer all the following questions: (15 mark)

1. **Why Lab animal inoculation is not preferred in viral diagnosis?**
2. **Mention all factors affecting immunogenicity of antigens.**
3. **What are Conditions necessary for tissue culture growth?**
4. **Define the meaning of BSL referring to type two and three.**
5. **What is the result of reaction of antigen and antibody?**

C- Write on the following (draw if possible): (25 mark)

1. Direct ELISA
2. Complement fixation test
3. Types of cell cultures
4. Direct immunofluorescence test
5. Haemagglutination & haemagglutination inhibition method

GOOD LUCK *Dr. Nermien Helmy Seddek*

Botany Department
Faculty of Science
Assiut University

Final Exam. For the 2rd level students
(Special Microbiology and Chem.& Microbiol.), Summer 2016.

Subject: Systematic Mycology 1 (262 B) Maximum Allowed Time: 135 Min.

Answer the Following Questions, and Illustrate your Answers Whenever Possible.

Q.1- Define Briefly Seven Only of the following and Give the name of the organisms or Fungal Groups (Taxa) which are related to each:- (14 Marks)

Antheridiol – Monocentric thallus – Zoosporangial proliferation – Polyplantism - Merosporangia- Amphigynous antheridium— Paragynous antheridium – Polyplantism – Mycorrhizae- Pseudoplasmodium.

Q.2- Compare and contrast between (4 points only should be answered; 12 Marks)

a- Ascogonium and oogonium. b- Primary and secondary plasmodia.

c- Zygospores and Oospores e- *Pythium* and *Phytophthora.*

f- Gonapodiaceae and Monoblephardiacea. g- Mucorales and Entomphthorales.

Q.3- Discuss Briefly Three Only of the following:- (12 marks)

a- Differentiation between the various subgenera of *Allomyces.*

b- The systematic relationship of Plasmodiophoromycetes.

c- Mode of zoospore discharge as the taxonomic criteria for Chytrids.

d- The taxonomic criteria of Saprolegniaceae into different genera and species.

Q.4- Using a Labeled Diagram an a Brief Comment, show Three Only of the following:- (12 Marks)

a- The life cycle of an endobiotic, holocarpic organism which is related to slime molds and refer to its economic iomportance.

b- Differentiation between *Circinella, Phycomyces, Zygorynchus* and *Absidia.*

c- Asexual life cycle of the organism which causes black wart disease of potato.

d- Discrimination between the organisms which are responsible for downy mildews.

Good Luck *Prof. Abdel-Raouf M. Khallil*

Faculty of Science Botany& Microbiology Department Plant
Summer (2016)
Morphology and anatomy (221 B)
Time: two hours
(50 degrees)

Part I: plant morphology

Question (1): Answer three onlyof the following: (12.5 degrees)

a) Germination cannot occur till the seeds have imbibed water, explain.
b) Illustrate the different types of weak stems.
c) Some plants develop non-green underground stems, illustrate the different types and mention the purpose of such modification of stem.
d) Leaves can perform special functions, answer with drawing only.

Question (2): Answer two only of the following: (12.5 degrees)

a) Write with drawing what do you know about **three only** of the following:
1-Endospermic seed 2-Storage tap root
3-Stem branching 4-Compound pinnate leaf.
b) Often a compound leaf is mistaken for a stem bearing leaves, how can you differentiate.
c) Define seed dormancy, mention its causes and breaking methods.

Part II: plant anatomy

Question (3): Answer the following: (12.5 degrees)

a) Write the function of four only of the following:
Pericycle - sieve plate – heart wood – endodermis – phellogen.
b) Compare between four only of the following:
1- 2ry growth in stem and root.
2-1ry & 2ry endodermis.
3- Role of callose & tyloses in conductive tissues.
4- interfascicular & interafascicular cambium.
5- Formation of lateral branch & lateral root.

Question (4): Answer with drawing three only of the following: (12.5 degrees)

a) The activity of cambium in woody dicotyledonous stems produces a definite zonation, explain.
b) Collenchyma has adaptability to change and support in the rapidly growing tissue, discuss and mention its types, origin and distribution in plant body
c) Plants inhabiting humid areas possess specialized water stomata, discuss.
d) Illustrate the different types of xylem and phloem arrangement in root and stem in plant axis.

Good Luck
DR/ AMANY HAMID

Assiut University
Faculty of Pharmacy
Department of pharmacognosy

Botanical Drugs PH16 Level 2
31-5-2016
Time allowed : 2 hours

Q1: Complete the following statements:

(put your answers in the table below) (10 marks)

1- .....(1)..... has anthelmintic action and expels tape worms due to the presence of .....(2)..... while .....(3)..... expels round worms due to the presence of.....(4).....

2- The coloring properties of saffron is related to .....(5)..... which gives .....(6)..... by the action of KOH.

3- The word 'somniferum' in Papaver somniferum means.....(7).....

4- Both .....(8)..... and .....(9)..... should be used when the flower is unexpanded.

5- The volatile oil of Clove mainly contains .....(10)..... while that of German chamomile contains.....(11).....

6- .....(12)..... have a core of polyhedral alcohol esterified by several molecules of phenolic acids.

7- Ginseng is used as general tonic because it promotes.....(13).....

8- .....(14)..... is a type of nucleic acid present in .....(15)..... and acts as .....(16).....

9- .....(17).....and.....(18)..... are labiaceous plants which used as carminative.

10- .....(19)..... replaces starch as reserve food material in the subterranean organs and can be used in .....(20).....

1-	11-
2-	12-
3-	13-
4-	14-
5-	15-
6-	16-
7-	17-
8-	18-
9-	19-
10-	20-

Q2: Give reason for the following statements: (10 marks, 2 marks each)

1- It is better to store Cascara bark at least one year before use.

2- Atropa belladonna can be used in ophthalmology.

3- Black mustard is irritant to eye after hydrolysis while white mustard is not.

4- Ginger has aromatic odour and pungent taste.

5- Foenugreek used in treatment of diabetes.

Q3: Complete the following table, concerning the plant name, active constituents, uses and/ or action: (10 Marks)

Plant name	Active constituent	Uses and/ or action
1-……	Quinine alkaloid	2-……
3-……	4-……	Estrogen like action so used in 5……
6……	7……	Relief pain in gout Another use: 8-……
9-……	10-……	Helps liver to perform its function
11-……	Resin known as…12……	Purgative and anticancer
Calabar bean	13- ……	14……
15…… …..	Vincamine	16……
17…… ……	Triterpenoidal saponin called …18……	Adaptogenic
19…… rhizome	Anthraquinone glycoside	20-……

Q4: Mention the following: (16 Marks)

1- A plant used as substitute for saffron (name , origin)

name …… (1/ 2 M)

origin…… (1M)

2- A bark contains volatile oil (name, uses)

Name..... (1/2M)

Uses..... (1M)

3- A plant has compound leaf (name, active constituents, uses)

Name .....(1/2 M)

active constituents.....(1M)

Uses .....(1M)

4- A plant used in renal colic (name, origin)

Name .....(1/2 M)

Origin..... (1M)

5- An alkaloid used in treatment of leukaemia in chilgren (name of alkaloid, name of the drug)

name of alkaloid .....(1/2 M)

name of the drug..... (1/2 M)

6- A seed used as immunostimulant (name, origin, active constituents)

Name..... (1/2 M)

Origin..... (1M)

active constituents..... (1M)

7- An inner bark (name, uses)

Name..... (1/2M)

Uses..... (1M)

8- A flower used as diaphoretic (name, origin)

Name .....(1/2M)

Origin..... (1M)

9- Antistress active constituent (name of A.C. , name of the drug)

name of A.C. .....(1/2M)

name of the drug..... (1/2M)

10- Plant used for preparation of vanillin (name, other uses)

Name..... (1/2M)

other uses..... (1M)

Q5: Choose the correct answer: (4 Marks)

1- All of the following are belonging to family Leguminosae except

a- Calabar bean b- foenugreek c- liquorice d- non of the above

2- .....consists of corollas of ray florets of the plant

a- Calendula b- safflower c- saffron d- hibiscus

3- All of the following is coloring matter except.....

a- Calendulin b- calendin c- carthamin d- crocin

4- ..... is used as antiemetic

a- Senna b- digitalis c- ginger d- pomegranate

5- All of the following contain cardiac glycosides except

a- Cinchona b- digitalis c- squill d- strophanthus

6- ..... in garlic decrease cholesterol production

a- Allicin b- ajoene c-diallyl trisulphide d- s-allyl-cysteine

7- ..... has anticholenergic action

a- Codeine b- atropine c- pilocarpine d- caffeine

8- ..... is an antitussive alkaloid present in opium

a- Morphine b- caffeine c- codeine d- theophylline .

1	2	3	4	5	6	7	8

BEST WISHES

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Department of Botany and Microbiology
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Final Exam. For the 2nd level students (Microbiology and Chem.&Micro.), June 2016.
Subject: Biology of Aquatic Fungi (361 B) **Maximum Allowed Time: 135 Min.**

Answer The Following Questions:- (Note: 5 pages should be considered)

1- Circle the correct answer and write the correct answer if it is missing :- **(5 Marks)**

A- The fungal thallus attaching several hosts

a- Epibiotic b- Endobiotic c- haplobiontic d- None of all (.....)

B- The oogonium and its attending antheridiidial branch originating on the same hypha is called

a- Amphygynous b- Diclinous c- Exigynous d- Monoclinous e- None of all (.....)

C- Fungi which are characterized by multiflagelated zoospores

a- *Olpidium* b- *Synchytrium* c- Myxomycota d- Oomycota e- None of all (.....)

D- The dichotomously branching of suspensor appendages is characteristic feature for

a- *Phycomyces* b- *Absidia* c- *Zygorhynchus* d- None of all (.....)

E- The fungal reproductive units which are produced by transformation of pre-existing cells of the thallus is referred as

a-Zoospores b- Conidia c- Sporangia d- Arthrospores e- Thallospores f-None of all.(.....)

2- Give the scientific term or the organism name which is related to each of the following (Put your answers in the next table):- **(10 Marks)**

a- The fungal species in which the sexual spore suspensors bear circinate filaments.

b-The obligate parasite fungus inhabiting the body cavity of *Mosquito* larvae

c- Fusion between a motile male gamete and immotile female one.

d- The fungal class producing zoospores with single anterior tinsel flagella.

e- The chytrid thallus in which the zoospores are released through a lid remaining attached to one edge of the papilla.

f- The aggregation of unicellular, uninucleate naked amoeboid cells which represents the vegetative structure of some slime moulds.

g- A fungal species which could be used as bioagent for nematode control.

h- The narrow ostiolate flask-shaped structure which contains the endogenous sexual spores.

i- The fungal species which produce two forms of zoospores in their life cycle.

j- The order in which the hyphae are constricted at regular intervals and one of the related genus is known as the sewage fungus.

(Give your answers in the following table):-

No	Answer	No	Answer
a		b	

c		d	
e		f	
g		h	
i		j	

3- Give <u>Only One Difference</u> between each of the following:- **(10 Marks)**

1	**Mucorales**	**Entomphthorales**
2	**Ascogonium**	**Oogonium**
3	**Gonapodiaceae**	**Monoblepharidaceae**
4	**Primary plasmodium**	**Secondary plasmodium**
5	***Pythium***	***Phytophthora***

4-Define Briefly FIVE only of the Following and give the name of an organism or fungal group which is related to each whenever possible:- **(10 Marks)**

a- Merosprangia:

b- Pseudoconidia or Chlamydospores (Define only one)

c- Polyplantism:

d-Erotactin hormones:

e- Polycentric fungal thallus:

f- Paragynous antheridia:

5- Using a labeled Diagram and Brief Comment, show Three Only of the following:- **(9 Marks)**

a- Evolution and types of sporangia in Mucorales:-

b- The Taxonomic criteria of Chytridiales:-

c- Differentiation between THREE genera of downy mildew fungi:

d- Differentiation between: *Cunninghamella, Syncephalastrum, and Rhizomucor*

6- Compare between each of the following:- (4 Marks)

a- Pythiaceae and Albuginaceae:-

b- Mastigomycotina and Zygomycotina:-

7- Give reasons for only ONE of the following:- (2 Marks)

a- Inclusion of Oomycetes in Stramenopila kingdom by some authors.

b- Inclusion of Plasmodiophoromycetes in Mastigomycotina by some authors.

The Best Wishes ***Prof. Abdel-Raouf Khallil***