Faculty of Science Botany and Microbiology Department		كلية العلوم قسم النبات والميكروبيولوجى
Second Term Exam. 2014/2015 Systematic Mycology 1, (262 B) Second Level (Credit hours)		Exam. Date: 15/6/2015 Time Allowed: 2 hours الأمتحان فى أربع صفحات

Part One (26 Marks)

FIRSTLY: ANSWER THE FOLLOWING QUESTIONS: (12 Marks)

A- CHOOSE THE CORRECT ANSWER AND PUT IT IN A TABLE: (0.5 Mark each)

1- **Oomycetes are classified on the basis of:**

a- Nature and mode of zoospore formation. b- Oospores.

c- Sporangiophores. d- Oogonia.

2- **The zoospores in Order Lagenidiales are usually ..... shaped.**

a- Kidney b- Pear c- Lemon d- Irregular

3- **Oospheres which fail to be fertilized function as:**

a- Parthenospores b- Aplanospores

b- Tertiary spores d- Oidiospores

4- **The species of Saprolegnia are identified on the basis of the characters of:**

a- Mycelia b- Oospores c- Oospheres d-Zoosporangia

5- **The oogonium and its attending antheridial branch originating on the same hypha is called:**

a- Monoclinous b- Diclinous c- Androgynous d- Hypogynous

6- **Genera of saprolegnaceous fungi are identified on the basis of differences in:**

a- The behaviour of zoospores b- Zoospores discharge

c- Oospores d- Both (a & b)

B- GIVE THE SCIENTIFIC EXPRESSION IN A TABLE FOR EACH: (0.5 Mark each)

1- The short hyphae which penetrate the substratum and absorb nutrition in aquatic fungi.

2- The order in which their hyphae are constricted at regular intervals.

3- It is carbohydrate in nature plugging the constricted portions in some fungi.

CC1

4- Fusion of two sexually different nuclei.

5- A sperm attracting hormone produced by *Allomyces*.

6- When a hypha lacks septa and numerous nuclei remain scattered throughout the thallus.

C- Name and draw the infectious spore of *Saprolegnia*. Mention two effective chemical substances for controlling fish disease caused by it. (2 Marks)

D- Classify fungi according to their temperature ranges for growth. (2 Marks)

E- Discuss and describe with drawing fragmentation as asexual reproduction in fungi. (2 Marks)

SECONDLY: ANSWER TWO QUESTIONS ONLY: (4 Marks each)

1- Define and descibe with drawing different types of planogametic copulation.

2- Define dimorphism. Describe with drawing various methods of asexual reproduction of any dimorphic fungus you are studied.

3- On the basis of nutrition, name and discuss various categories of fungi, giving suitable examples.

THIRDLY: ANSWER THE FOLLOWING QUESTION: (2 Marks each)

NAME, DEFINE AND DRAW WITH LABELLED DIAGRAM EACH OF THE FOLLOWINGS:

A- Any two type of ascomata

B- Any two type of conidiomata.

C- Zoospore behaviour (discharge of zoospores) in *Achlya* and *Dictyuchus*.

"Good Luck"

Prof. Dr. M. Alaa El-Nagdy

(٢)

Part Two (24 Marks)

Question one:

Answer *three only* of the followings:- **(4 Marks each)**

a- Describe with drawing the thallus structure, the method of spore dispersal and the life cycle of the hat thrower fungus.

b- Mention with explanation and drawing the numbers, kinds and positions of the flagella in the Classes/ Plasmodiophoromycetes and Hyphochytridiomycetes.

c- Give with drawing the symptoms of black warts disease on potato tuber. And show with drawing the development of the diffent stages during asexual reproduction of the causal pathogen in potato tubers.

d- Choose the correct answer of the followings and put it in a table:-

1-Sporangiola in *Thamnidium* are.....

a-Thin walled b-Acolumellate c-Multispored d-Columellate

2-Zoospores in Pythium are fashioned within.....

a-Zoosporangium b-Discharge tube c-Vesicle d-Oospore

3-Suspensor appendages are dark black in colour and dichotomously branched in.....

a-*Phycomyces* b-*Zygorhynchus* c-*Absidia* d-*Mortierella*

4-Sporangiophores occurring at the curvature of stolon in.....

a-*Mucor* b-*Zygorhynchus* c-*Absidia* d-*Rhizopus*

Question two:

Answer *three only* of the followings:- **(4 Marks each)**

a- Discuss with drawing the different trends of sporangia evolution in the Order/ Mucorales.

b- Identify with drawing the following scientific terms:-

Operculate chytrids – The appressorium – Interbiotic chytrid – Aplerotic oospore

c- Explain with drawing the life cycle of *Plasmopara viticola* on grape plants.

d- Follow up with illustration only the phase of infection by *Plasmodiophora brassicae* which occurrs in the root hairs of cabbage plants.

"إنتهت الأسئلة

Good Luck - Prof. Dr. Esam Hosney Ali

15-6-2015

Assiut University

Final Exam. For the 2rd level students
(Special Microbiology and Chem.& Microbiol.), June 2015.

Subject: Systematic Mycology 1 (262 B) **Maximum Allowed Time: 150 Min.**

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

1- Define Briefly Eight Only of the following and Give the name of the organisms or Fungal groups which are related to each:- **(12 Marks)**

Holocarpic fungi – Merosporangia - Erotropins hormones – Polycentric thallus – Zoosporangial proliferation – Polyplantism – Androgynous antheridium — Dimorphism – Mycorrhizae - Plasmodium.

2- Give only one difference between (Answer Only Six points; Design a table for your answers) **(12 Marks)**

a- A vegetative cell and spore cell.
b-Gonapodiaceae and Monoblepharidaceae.
c- *Plasmodiophora and Tetramyxa.*
d- *Pythium* and *Phytophthora.*
e- Albuginaceae and Peronosporaceae .
f- Mucorales and Entomphthorales.
g- *Zygorrhynchus* and *Phycomyces*.

3- Write the scientific term or the name of organisms which are related to each of the following:- **(2 Marks)**

a- Fungi which produce distinctive multiflagellate zoospores and essential for cellulose breakdown in feed.
b- Diffusible substance playing a specific role in the sexual reproduction of the organism that produce it.
c- The fungal thallus attaching several hosts.
d- The fungal reproductive units which are produced by transformation of pre-existing thallus cells.

4- Discuss Briefly Three Only of the following:- **(12 marks)**

a- The inclusion of Class Oomycetes in Kingdom Stramenopila by some scientists.
b- Alternation of generation of *Allomyces*.
c- Zoospores flagellation as taxonomic criteria of Mastigomycotina.
d- Evolution of sporangia in Mucoraceae, and support your answer by some examples.

5- Using a Labeled Diagram and a Brief Comment, show Four Only of the following:- **(12 Marks)**

a- Zoospores discharge as the taxonomic criteria for Chytridiales.
b- The antheridial branch origin in Saprolegniaceous fungi.
c- The life cycle of an organism which is responsible for club root disease.
d- Differentiation between four genera of Saprolegniaceae.
e- Distinction between three of the downy mildews fungi.

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

Faculty of Science Botany& Microbiology Department		كلية العلوم قسم النبات والميكروبيولوجى
Virology(281B) Time: two hours Degree exam: 50marks	Second semester exam - the academic year 2014/2015 Second Division - Faculty of Science Exam date: Tuesday, 09/06/2015	

The first question: Write short notes on<u>five only</u> of the following:**(25marks)**

1. Effect of freezing, thawing and desiccation on virus particles
2. Importance of plant virology
3. Viroids
4. Effect of virus on the morphology of plant
5. The composition and structure of the particles of plant virus
6. Transmission of virus by nematodes

The second question:

(a) Interaction between the dependent virus and the helper virus takes place in the plant or in aphids. Discus**(5marks)**

(b) Define each of the following:**(10 marks)**

1. Acquisition feeding period and Inoculation feeding period
2. Necrosis
3. Circulative and non-circulativetansmissino of virus

The third question:

a) Discus two only of the virus groups**(6marks)**

b) Why Beijerinck**is considered the real Father of Virology(4marks)**

Good luck

Dr/ AmalDanial

Final Exam (second term)

2014/2015

Botany & Microbiology Department

Molecular biology (212B) (Credit hours)

Faculty of Science

Time: 2 hours

Please answer the following: [Total 50 marks]

Q1: Choose the correct answer: (10 marks)

1- The process of ---------- cuts introns from the primary transcript and the final "processed" mRNA is produced.

A-RNA cleaving B-RNA translocation C-RNA elongation D-RNA splicing

2- After DNA replication is completed,----------

A-each new DNA double helix consists of one old and one new DNA strand

B-each new DNA double helix consists of two new strands

C-one DNA double helix consists of two old strands and one DNA double helix consists of two new strands

D-each of the four DNA strands consists of some old strand parts and some new strand parts

3-Ribosomes composed of .....

A- two subunits, each consisting of rRNA and protein B- mRNA, tRNA, rRNA and protein

C-two subunits, each consisting of rRNA only D-mRNA, rRNA and protein

4-Sugar that occurs in DNA but not in RNA

A- ribose B- deoxyribose C- uracil D- thymine

5-An enzyme that "cuts" DNA at a specific sequence of bases is called ---------

A-reverse transcriptase B- restriction enzyme C- RNA D- DNA-ligase

6- DNA which is wrapped around 4 pairs of proteins is termed----------

A- histones B-leucine C- threonine D- methionine

7-How does transcription begin?

A-when RNA polymerase binds to a sigma to create a holoenzyme and the sigma guides the RNA polymerase to certain locations where transcription should begin

B-the RNA polymerase binds to a coding strand located downstream

C-the non-template strand signals to the binding receptor that a phosphodiester bond is present and ready for action

8-In recombinant methods, the term "vector" refers to ----------

A-the enzyme that cuts DNA into restriction fragments

B-the "sticky" ends of a DNA fragment C- restriction fragment

D-a plasmid or other agent used to transfer DNA into a living cell

9-Which type of gene expression control is related to the rate at which pre-mRNA is converted to mature mRNA?

A- transcription B- post-transcription C- translation D- post-translation

10- The enzyme reverse transcriptase used to produce .....

A-cDNA B- RNA C- DNA D- PCR

1	2	3	4	5	6	7	8	9	10

(C)

Q2: Fill the blanks in the following statements: (15 marks)

1- DNA back-bone consists of .....and.....

2- Initiation of DNA synthesis on the lagging strand requires short..... made by enzyme called.....

3- .....is a strech of DNA that codes for a protein or RNA molecule.

4- .....copies a strech of DNA into RNA in a process known as .....

5- RNA synthesis begins at a .....in the DNA and ends at a .....

6- The .....in a tRNA molecule is designed to base pair with a complementary sequence of three nucleotides.

7- The sequence of restriction enzymes are called ..... sequence.

8- Taq DNA polymerase was used in PCR reaction because it does not .....

9- The gene vectors are ....., ... and .....

10- ..... The technique that utilizes probes to detect specific DNA fragment.

11-PCR reaction requires ....., ..., ..., ... and .....

12-Gene cloning reqirements are ....., ..., ... and .....

13-Southern blotting requires ....., ..., ... and .....

14-In DNA sequencing Sanger method called also .....

Q3: What is meant by the following abbreviations: (5 marks)

1-mRNA 2-dNTPs 3-RFLP 4-RT-PCR 5-UTR

Q4: Give the definitions for the following: (5 marks)

A-Nucleoside B-Nucleosome C-Transcription D-Hybridization
E- Restriction fragment

Q5: Explain <u>TWO only</u> of the following: (8 marks)

1.Gene cloning 2.Detection of right clone

3.Differences between Plasmid vector and phage vector

Q7: Write on with drawing <u>one only</u> of the following: (7 marks)

1- DNA replication in prokaryotes

2- Protein biosynthesis

Best Wishes Dr. Naeima Yousef & Dr. Ramadan Othman

Faculty of Science Botany and Microbiology Department	بسم الله الرحمن الرحيم	كلية العلوم قسم النبات والميكروبيولوجي
Plant Ecology Course No. 241 B 50 marks	Second Semester Final Examination: 2014-2015 Second Level: Botany and Microbiology Time allowed: Two Hours	

Answer the following questions:

1- Discuss briefly THREE ONLY of the following: (16.5 marks)

a- The effect of the various bands of the solar spectrum on plants. (5.5 marks)

b- Transportation by wind. (5.5 marks)

c- The role of emergent aquatic macrophytes in improvement of soil aeration. (5.5 marks)

d- The differences in appearance and structure between plants kept in the light and those kept in the dark. (5.5 marks)

2- Compare between each two of the following (answer THREE ONLY): (21 marks)

a- The ecological importance of soil texture and soil temperature. (7 marks)

b- Parasitism and symbiosis. (7 marks)

c- The chemical and physical weathering processes which lead to the soil formation. (7 marks)

d- High temperature injury and low temperature injury. (7 marks)

3- Define only FIVE of The following (12.5 marks)

a- Saturation capacity. (2.5 marks)

b- Plant zero. (2.5 marks)

c- Short day plants. (2.5 marks)

d- Halophytes. (2.5 marks)

e- Pedogenesis. (2.5 marks)

f- Endophytes. (2.5 marks)

g- Temperature coefficient. (2.5 marks)

Good Luck

Prof. Dr. Mohamed Abou El-Ela

Assiut University - Faculty of Science - Botany Department

Final Examination (2014 – 2015) Time allowed: 2 hours

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

ANSWER THE FOLLOWING QUESTIONS (50 degrees):

First question: Complete 10 ONLY of the following: … (10 Degrees).

1. Intine of pollen grain is characterized by ……, ……..
2. If the stamens are double the number of sepals and outer whorl is opposite the petals, the condition known as …….
3. Characters of an advanced flower are ……., ……, …….
4. Wind pollinated flowers develop certain adaptation such as ……., ……, ..., …….
5. In cymose inflorescences the mode of growth is known as …… and the order of flowers opening is called …….
6. The special type of inflorescences are ……, ……, ...
7. Cremocarp is ……. fruit consisting of ……... .
8. Stemens of the family Cruciferae are ……..…….. while in the family Scrophulariaceae, they are ……...
9. In phylogenetic systems, plants are classified into different groups on the basis of ……., ...
10. The florets of the family Asteraceae are ……., ……, ……., whereas the inflorescence is ……..……..
11. In the family Labiatae, the stem is ……, corolla is ……... and style is ……..
12. The family Apiaceae is characterized by …….…… ovary, …… inflorescence and leaves are ……..
13. Gynoecium of the family Apocynaceae is …… and fruits are ……., while gynoecium of the family Malvaceae is …… and fruits are ……

Second question: Identify and draw ONLY 5 of the following ..... (10 Degrees, 2 degrees each).

Anatropous – Exine – Corymb – Follicle – Monochasial – Epigynous flower – Descending imbricate – Siliqua –Placentation.

بقيــة الأسئلــة علــى الصفحــة التاليــة »»»»»»»»»»»»»»»»

(c)

Third question: ..... (30 Degrees)

I. Compare between ONLY 5 of the following:.. (15 Degrees, 3 Degrees each).

a. Aggregate and composite fruits (give examples).
b.Sepals, petals and Androecium of Papaveraceae and Papilionaceae.
c. Subfamilies of Rosaceae.
d. Perianth, Androecium and fruits of Convolvulaceae and Nyctaginaceae.
e. Sepals, Gynoecium, fruits and economic plants of Solanaceae and Asteraceae.
f. Perianth, Androecium and Gynoecium of Liliaceae and Chenopodiaceae.

II. Write short notes on ONLY 3 of the following ..... (9 Degrees, 3 Degrees each).

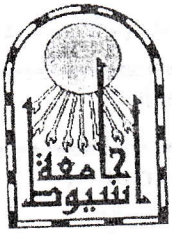
a. Modification of calyx.
b. Indehiscent fruits.
c. Microgametogenesis.
d. Family Gramineae.

III. Give the scientific name of TWO economic plants of the following Families: Iridaceae, Caesalpiniaceae and Geraniaceae. (6 Degrees).

أستاذه المادة: أ.د. زينب احمد رضا الكريمى

(1)

كلية الزراعة – قسم الوراثة



امتحان الفصل الدراسي الثاني
مادة اساسيات الوراثة (215 ز)
لطلاب المستوي الثاني كلية العلوم (الساعات المعتمدة)
العام الجامعي 2014 / 2015 م

لجنة الممتحنين: د. بهاء الدين السيد عبد الفتاح د. محمود أبو السعود الراوي الزمـــن: ساعتان

تتكون ورقة الاسئلة من صفحتين صفحة امامية وصفحة خلفية كما يتكون الامتحان من اربعة اسئلة

السؤال الأول: (15 درجة)

أ- ضع علامة صح أو خطأ أمام العبارات التالية بعد نقلها في كراسة الاجابة: - (5 درجات)

1- جين الصلع في الإنسان يتوارث كجين سائد في الذكور ومتنحي في الإناث.

2- النظام البيئي هو الذي يحدد الجنس في ديدان البونيليا.

3- تتحور النسبة المندلية في حالة تفوق المتنحي إلي 9 :7

4- يطلق علي مجموعة الجينات المحمولة علي نفس الكروموسوم بالمجموعة الارتباطية.

5- في حالة الجينات المميتة المتنحية ذات الاثر المظهري السائد تتحورالنسبة المندلية من 3 : 1 إلي 3 : أقل من واحد.

ب- ما المقصود بكل من: (5 درجات)

السياده المشتركه – الاليلات المتعدده - الجينات المتأثرة بالجنس - الجينات المحددة بالجنس – المظاهر النسخية

ج- تكلم عن منشأ حالة الأنوثة الخصيوية **Testicular feminization** في الانسان. (5 درجات)

السؤال الثاني: (10 درجة)

أ- عند التلقيح الاختباري لفرد هايبرد في ثلاث مواقع (6 درجات)

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

كان النسل الناتج كما يلي:

A	B	C	174
a	b	c	176
A	b	c	63
a	B	C	57
A	B	c	14
a	b	C	11
A	b	C	2
a	B	c	3
TOTAL			500

المطلوب :-

1- حساب المسافة بين الجينات الثلاثة

2- ارسم الخريطة الوراثية

3- احسب معامل التوافق

ب- في عشيرة مكونة من 300 فرد كانت اعداد التراكيب الوراثية كالتالي aa(42) Aa(108) AA(150) احسب: (4 درجات)

1- تكرارات التراكيب الوراثية والتكرار الاليلي.

2- اختبر اتزان العشيرة بقانون هاردي-واينبرج واذا كانت العشيرة غير متزنة احسب تكرارات التركيب الوراثية عند الاتزان.

أنظر خلف الورقة

السؤال الثالث:- (10 درجة)

في كراسة الاجابة قم بنقل كل عبارة في العمود (أ) ثم ضع امامها رقم العباره التي تناسبها من العمود (ب)

العمود (أ)		العمود (ب)
Reverse transcriptase	1	يقوم بتضاعف السلسلة المتأخرة في حقيقيات النواة
Topoisomerse I	2	يزيل بادئات الـ RNA ويملأ الفراغات
Primase	3	تتابعات يتم ترجمتها في mRNA
Exons	4	يقوم بنسخ الجينات الخاصة بالـ tRNA في حقيقيات النواة
UAA	5	يخلق بادئات قصيرة من الـ RNA
DNA polymerase I	6	معقد من البروتينات الهستونية والـ DNA
RNA polymerase III	7	يزيل الحلزنة الفائقة الموجبة
Nucleosomes	8	تتابع يوجد في mRNA يتعرف عليه الريبوسوم
Shine-Dalgarno	9	يقوم بتخليق خيط الـ DNA مستخدما قالب من RNA
α-DNA polymerase	10	من شفرات الايقاف
	11	يقوم بنسخ جينات rRNA
	12	تتابع يوجد في tRNA

السؤال الرابع:- (15 درجة)

أ- أذكر في نقاط فقط:- (6 درجات)

- النقاط التي يختلف فيها تضاعف DNA في حقيقية النواة عن بدائيات النواة.
- عملية تجهيز الـ mRNA في الكائنات حقيقية النواة.
- متطلبات عملية الترجمة.

ب- وضح بالرسم فقط :- (4 درجات)

- تركيب المرقي (promoter) في الكائنات حقيقية وغير حقيقة النواة.
- خطوات تفاعل البلمرة المتسلسل (PCR).

ج- اشرح مع الرسم:- عملية القص المتنوع (Alternative splicing) لجين الكالسيتونين في الفئران. (5 درجات)

انتهت الأسئلة – مع تمنياتنا بالتوفيق

لجنة الممتحنين

د. بهاء الدين السيد عبد الفتاح د. محمود أبو السعود الراوي