



Answer the following questions

Question no 1:

Write (Yes) or (No) in the front of each sentence from the following and **correct** the wrong one:

1	Halophytic algae are algae found in saline water containing low percentage of salts (<i>Dunaliella</i>).	()
2	Ephytic algae are algae grow on the shells of fish, molluses.	()
3	Some genera of the soil algae can fix atmospheric nitrogen.	()
4	Rock and stone surfaces which are relatively stable , are often coated with algae.	()
5	The members of the plankton live free-floating in the water and are unassociated with any substrates.	()
6	Freshwater environments include flowing (lotic) and standing (lentic) waters	()
7	Oligotrophic have been identified as those having more than 100ppm of solutes	()
8	The term primary production (or productivity) refers to the amount of protein content present in a unit area per specified time	()
9	Diatoms tolerance of a large absolute range of PFD	()
10	The depth of the photic zone can be affected greatly by seasonal turbidity	()
11	In most algal-cultivation systems, light only penetrates the top 3 to 4 inches (76–100 mm) of the water.	()
12	When The pH of a lake falls to below 4 or 5 , the algal diversity are	()

Assiut University

First semester 2014/ 2015

Final Exam

Faculty of Science (321B) Advanced Plant Anatomy

Level: 3

Botany and microbiology department

Time: 2 hours

Answer on THREE quations only and give illustration if possible

I- a- Define only:

Rhytidome- protostele- tyloses – leaf trase- Astroscleride – bast fiber – plerome.

b- compare between:

1- Sieve cell and sieve tube .

2- Secondary and primary cortex.

II- Give an account on the:

a-Tunica- corpus theory .

b- Anomalous secondary growth in the dicot stems.

III- Write short notes on:

a- Functions of endodermis.

b- Activity of pericycle in the roots and stems.

IV- Explain:

a- Origin and function of periderm .

b- Types of xylem fibers.

Prof. A. Sarghu

Answer All the Following Questions

I- Define FOUR ONLY of the following (8 marks):-

- 1] LD₅₀ 2] Biotoxin 3] Fetotoxic 4] PSP 5] Estrogenic toxin 6] AFM₁

II- Compare between FOUR ONLY of the following (16 marks):-

- 1] Exo- and endo- bacterial toxins.
- 2] Anatoxins and microcystins.
- 3] Detoxification of the aflatoxin B₁ by alkalis and acids treatment.
- 4] Stability and persistence of patulin and citrinin.
- 5] Biological effects of trichothecenes and ochratoxins.

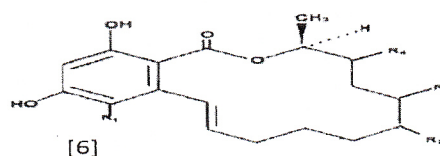
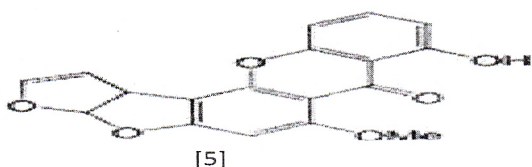
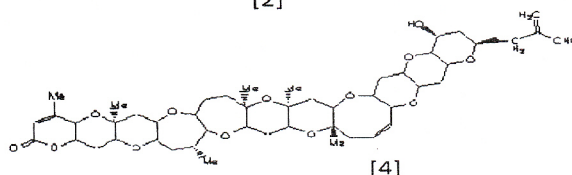
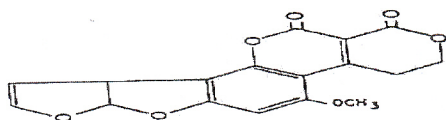
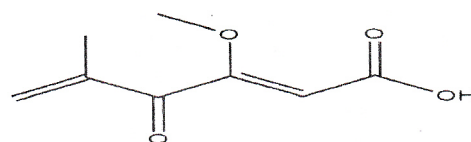
III- Explain the metabolic pathways of TWO ONLY of the following (6 marks):-

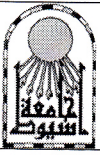
- 1] Ergot alkaloids 2] Kojic acid 3] Bis furanoisocoumarin toxin

IV- Write on TWO ONLY of the following (10 marks):-

- 1] Factors affecting mycotoxins production.
- 2] Summarized the mycotoxins control strategies.
- 3] Why the microbes produced their toxin.

V- Identify FIVE ONLY of the following microbial toxin, give the name of producer (10 marks):-





امتحان الفصل الدراسي الثاني
العام الجامعي ٢٠١٤/٢٠١٥

(١)



الزمن: ساعتين

الفرقة: ساعات معتمدة

القسم الذي يقدم المقرر: المحاصيل

اسم المادة وكودها: تصميم التجارب - ٣١٦ ز

لجنة الممتحنين: أ.د. عاطف ابو الوفا & د. الحسين حمادة عبد العظيم المراجع الداخلي: أ.د. محمد عبد المنعم المرشدي

أجب على جميع الأسئلة التالية :

السؤال الأول : (١٥ درجة)

أ. لديك عينة تم سحبها بطريقة عشوائية من احد المجتمعات وكانت كالتالي:

15	12	12	13	11	10	10	12	14	11
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١. ما هي قيمة المتوسط الحسابي والوسيط لهذه العينة (٢ درجة)

٢. احسب قيمة التباين لهذه العينة..... (٢ درجة)

٣. هل تنتمي هذه العينة لمجتمع المتوسط الحسابي له يساوى ١٦ (٢ درجة)

٤. اذا سحبت عينة اخرى متوسطها = ١١ من هذا المجتمع وكان تباينها = 1 وعدد

افرادها = ١٠ اى العينتين يكون اكثر دقة ولماذا؟ (٢ درجة)

٥. احسب حدود الثقة لهذا المجتمع باستخدام العينة الاكثر دقة عند مستوى ١% .. (٢ درجة)

ب. اجرى احد الباحثين تجربة معملية على عينتين من الفئران وحصل على النتائج التالية

$$\bar{X}_1 = 10 \quad n_1 = 9 \quad S_{\bar{X}_1} = 1$$

$$\sum X_2 = 144 \quad S_2 = 2 \quad d.f = 16 \text{ للتجربة}$$

اختبر المعنوية بين العينتين السابقتين..... (٥ درجات)

السؤال الثانى : (15 درجة)

قام باحث بعمل تجربة لدراسة تأثير احد الهرمونات بتركيزات مختلفة على نمو الفئران و حصل على جدول التحليل التالى

S.O.V	d.f	SS	M.S	F _c
Rows	?	?	10	?
Columns	?	٤٨	?	?
Treatment	4	?	?	5
Error	?	?	10	
Total	?	?		

١. قم بنقل الجدول السابق فى ورقة الاجابة ثم اكمل المربعات التى بها علامة استفهام... (٧ درجات)

٢. باعتقادك ما نوع هذا التصميم ولماذا لجأ الباحث الى استخدامة (٢ درجة)

باقى الاسئلة فى الخلف

٣. اكتب النموذج الاحصائي للتصميم المستخدم (٢ درجة)
 ٤. حدد المعنويات ثم ناقش نتائج هذه التجربة (٤ درجات)

السؤال الثالث : (٢٠ درجة)

- ١- عرف التجربة العاملية مع ذكر مميزاتها (٣ درجة)
 ٢- التكرار المتخفي وأهميته (٢ درجة)
 ٣- إذا كان لديك البيانات التالية (١٥ درجة)

Treat.	R ₁	R ₂	R ₃	R ₄	ΣT
A ₀ B ₀	9	10	13	8	40
A ₀ B ₁	10	13	13	16	52
A ₁ B ₀	11	12	10	11	44
A ₁ B ₁	16	17	12	19	64
ΣR	46	52	48	54	200

حلل التجربة إحصائياً

انتهت الاسئلة

بالتوفيق والنجاح

T Values

d.f p	8	9	12	15	16
0.05	2.31	2.26	2.18	2.13	2.12
0.01	3.36	3.25	3.05	2.95	2.92

$$F_{0.05}(4,12)=3.26$$

$$F_{0.01}(4,12)=5.41$$

$$F_{0.05}(1,9)=5.12$$

$$F_{0.01}(1,9)=10.56$$

$$F_{0.05}(3,9)=3.86$$

$$F_{0.01}(3,9) = 6.99$$



Assiut University
Faculty of Science
Botany and Microbiology Department

Course Title: Plant Cytology
Course Code: 323 B
Final Exam: Third Level
First Semester 2014-2015
Allowable Time: 2 hours
Total Degree: 50 Marks

Answer the following questions

1. Illustrate with drawing three only of the following (15 marks)

1. Chromonema and types of their coils
2. Stages of Prophase I in Meiosis
3. Ultra-structure and function of Golgi apparatus
4. Types of chromosomes according to the position of centeromer.

2. Compare between three only of the following (15 marks)

- 1- Grana in chloroplast and cristae in mitochondria (structure and function)
- 2- Ribosomes in eukaryotic and prokaryotic cells
- 3- Anaphase and telophase in mitosis
- 4- Structure of plasma membrane in both unit of membrane and fluid mosaic hypotheses

3. Write briefly on five only of the following (10 marks)

- | | | |
|----------------------|----------------|-------------------|
| (i) Satellite bodies | (ii) Karyotype | (iii) Chromomeres |
| (iv) Chemiosmosis | (v) Etioplasts | (vi) Leucoplast |

4. Explain with drawing two only of the following (10 marks)

- 1- Origin of cell wall.
- 2- Structure of nuclear envelop and nucleolus.
- 3- Structure and function of endoplasmic reticulum

..... **Good Luck**

Dr. Ismail Ramadan Abdel-Rahim



Answer the Following Questions

Q1. Write briefly with drawing on the following: (15 marks)

- 1- The cell wall chemical composition of fungi
 - 2- The growth curve of yeasts
 - 3- Glycolysis in the fungal metabolism
-

Q2. Give short account on Only Five of the following: (25 marks)

- 1- Bioynthesis of:
a) B-Lactam b) Zearalenone by fungi c) Kojic acid
 - 2- Nitrogen metabolism n fungi
 - 3- Respiration of fungi
 - 4- Cortisone transformation by fungi
 - 5- Hexoses utilization by fungi
 - 6- Two external factors affecting the fungal growth
 - 7- The role of three microelements in fungal metabolism
-

Q3. Identify each of he following: (10 marks)

- 1- Thermotolerant fungi
 - 2- Internal factors
 - 3- Continuous culture
 - 4- Psychrophilic fungi
-

Good Luck ☺

Dr. Khalid A. Hussein



First Semester Final Examination (Advanced Virology)

Course: 381 B

Students: Third Level Students

Examiner: Dr. Nermien Helmy Seddek

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

A- Choose the Correct Answer (ONLY FIVE item): (10 marks)

- 1- Molecular methods consider (direct - indirect) examination for viral diagnosis.
- 2- Ether has strong influence on (enveloped – non enveloped) viruses.
- 3- (INF – immune cells - lymphocytes) increase the ability of uninfected host cells to resist new infection.
- 4- Fusiform crystalline inclusion bodies appear with (TMV- Red clover mosaic- other) virus.
- 5- (Amniotic - Allantoic) cavity inoculation used for hepatitis viruses' diagnosis.
- 6- These types of antibodies don't contain j chain (IgA – IgG – IgM).
- 7- Direct virus diagnosis depends on the detection of viral (RNA- antibodies- protein) in specimen taken from the site of infection.

B- Comment on ONLY FIVE of the following: (10 mark)

- 1- Lab animal inoculation in viral diagnosis is not preferred.
- 2- You can use tissue culture for many experiments without changing medium.
- 3- Specimens should be delivered promptly to the laboratory for viral diagnosis.
- 4- Human red blood cells don't contain any kind of antigens.
- 5- Researchers don't need protective condition or special tools in BSL-3.
- 6- Reaction of antigen and antibody due to the formation of a visible precipitate.

C- What are the important differences between viruses and other microbial agents? (10 marks)

انظر خانة (باقي الأسئلة في الصفحة الثانية)



(2)

D- Write on FOUR ONLY of the following (draw if possible): (20 mark)

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

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إنتهت الأسئلة وبالتوفيق والنجاح

GOOD LUCK

Dr. Nermien Helmy Seddek



Pathogenic Microorganisms (397 B)
3rd level (Microbiology & Botany Students)

Final exam: 18th January 2015
Time allowed: 2 hours

Answer the following four questions

(50 marks)

I) Give short accounts on 4 only of the following (20 marks, 5 each)

- 1) Laboratory techniques used to diagnose bacterial and fungal pathogens?.
- 2) Adherence factors, giving examples.
- 3) The differences in the structure and ways of transmission of hepatitis viruses.
- 4) The differences between exotoxins and endotoxins?.
- 5) The three main categories of mycotic diseases, giving examples for each?.
- 6) Immune system response to infection?.

II) What is meant by..... (answer 10 only) (10 marks)

- 1) Syndrome.
- 2) Leucopenia.
- 3) Viremia.
- 4) Transient microbiota.
- 5) Opportunistic pathogens.
- 6) Convalescence.
- 7) Morphological dimorphism.
- 8) Acellular forms of microorganisms.
- 9) Preferred portal of entry of many microbes, giving an example.
- 10) Sensitivity test, giving one reason why is sensitivity test urgently needed?.
- 11) Give 4 enzymes produced by microbes as virulence factors associated with colonization and invasion.
- 12) Direct examination when positive can differentiate between zygomycosis and phaeohyphomycosis infection, How?.

III) Choose the correct answer (or complete) for 10 of the following: (10 marks)

- 1) Which one of the following organisms causes kuru disease?
* *Klebsiella* * *Prions* * *Viruses* * *Mycobacterium*
- 2) The number of organisms required to establish an infection is termed as.....
* *Inoculum potential* * *Lethal dose* * *Infective dose* * *Virulence factors*
- 3) A structural component found in Gram +ve but not in Gram -ve bacteria?
* *Peptidoglycan* * *Chitin* * *Teichoic acid* * *Phospholipids*
- 4) Structures that allow bacteria to survive harsh environmental conditions are
* *Flagella* * *Pili* * *Spores* * *Capsules*
- 5) Which one of the following causes tuberculosis in cattle?
* *Virus* * *Prions* * *Aspergillus fumigatus* * *Mycobacterium bovis*

- 6) Which of the following diseases is sexually-transmitted?
 * **Aspergillosis** * **AIDS** * **Gonorrhea** * **Meningitis**
- 7) Infection of the cornea is termed as
 * **Keratomycosis** * **Onychomycosis** * **Tinea capitis** * **Mycetoma**
- 8) Which of the following microorganisms can cause community-acquired pneumonia?
 * **Legionella** * **Streptococcus** * **Haemophilus** * **Influenza virus**
- 9) Infections of the fingernails or toenails are termed as
 * **Tinea versicolor** * **Tinea manuum** * **Tinea pedis** * **Onychomycosis**
- 10) Which one of the following organisms cause uncomplicated cystitis?
 * **Mycobacterium** * **Prions** * **Chlamydiae** * **Escherichia coli**
- 11) Examples of fungal metabolites that may cause symptoms areand
- 12) Botulism is caused via ingesting food contaminated withwhile cholera is caused via drinking water contaminated with.....
- 13) Body fluids that do not have normal microbiota in healthy people are: 1) 2) and 3)

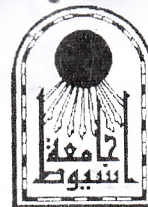
IV) Answer 10 only of the following (by only one word): **(10 marks)**

- 1) The virulence factors destroying white blood cells.
- 2) Presence of toxins in the host's blood.
- 3) Factors that decrease body temperature.
- 4) Health care-associated-infections.
- 5) A disease is always present in a population?.
- 6) Antibiotics able to destroy many types of bacteria.
- 7) A diagnostic medium used for identification of *Candida* species.
- 8) A group of microorganisms can cause diseases and carried by fleas and body lice.
- 9) Number of microbes that will kill 50% of inoculated test animals.
- 10) Organisms that harmoniously live in or on the human body without causing disease.
- 11) A decrease in glucose concentration and elevation in protein and white blood cell count in the cerebrospinal fluid (CSF) are characteristic findings for.....
- 12) A glycoprotein that bridges junctions between cells, allowing microbes to move from one cell to another.

Best Wishes

(18/1/2015)

Professor Mady Ahmed Ismail



Final Exam. For the 3rd level students (Microbiology), Jan. 2015.
Subject: Biology of Aquatic Fungi (361 B) Maximum Allowed Time: 135 Min.

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

1- Give the scientific term which is related to each of the following (Put your answers in the next table):- (15 Marks)

- a- The community which held together by complex interactions between the biotic and abiotic factors in a given water area.
- b- The Variations of fungal genera and species in certain aquatic habitat.
- c- The interaction between two different aquatic fungi at which one member benefits while the other does not benefit nor is it harmed
- d- It is a biological phenomenon by which an aquatic fungus produces one or more biochemicals that either positively or negatively influence the growth, survival, and reproduction of other organisms.
- e- A natural aquatic environment which is lacking a continuous flow of water.
- f- Aquatic fungi that move between aquatic and extra-aquatic habitats in haphazard rather than regular.
- g- Description of certain aquatic habitat which should be considered in any sampling procedure and deals with depth, dimension, geology of shores, sediment distribution, currents, inflow and outflow of water, etc.
- h- The buffer zone between the warmest and coolest layers in aquatic habitat which ordinarily prevents the mixing of the two layers.
- i- A water ecosystems which are characterized by nutrient-deficient, relatively low productivity and support few microorganisms.
- j- A total count (colonies forming units) of an organism within a community.

(Give your answers in the following table):-

No	Answer	No	Answer
a		f	
b		g	
c		h	

(2)

d		i	
e		j	

2-Circle the correct answer (Give the fit word if it is missing) (5 Marks)

a- The physical location in the environment to which an organism has adapted
(Migrants – Mesosomes – Thermocline layer- lotic habitat – None of all)

b- The association of organisms that live together and that exhibit well-defined nutritional or behavioral interrelationships.
(Communities – Ecosystems– Biodiversity – wetland - All of these)

c- An aquatic fungus which could be used as biocontrol agent for nematode
(*Coelomomyces* – *Olpidium* - *Aphanomyces* – None of all).

d- The organisms which feed on a variety of food sources.
(Parasites – Saprophytes – Pathogens- Synergism- None of all).

e- The aquatic fungus which is an obligate parasite on some arthropods and thereby is emphasized the great potential in the biological control of mosquitoes larvae.
(*Olpidiopsis* - *Aphanomyces* – *Alatospora* – *Plasmidiophora* – Non of all)

4-Define Briefly five only of the Following:-

(10 Marks)

a- Resident or indwelling organisms:

b- Antagonism:

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c- The light Profile of water ecosystem:

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d- The main ecological role of Aquatic Hyphomycetes in aquatic ecosystem:

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e- Primary and secondary marine ascomycetes:

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f- Transient fungi:

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3- Give only one reason for each the following:-

(4 Marks)

a- Predominance of aquatic hyphomycetes in aquatic ecosystem rather than terrestrial fungi:-

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b- Superiority of aquatic fungi in comparable to heterotrophic bacteria as pioneer colonizers for different substrata in aquatic habitats:-

.....

4- Write Briefly on each of the following:-

(10 Marks)

a- Rumen fungi

.....

b- Adapation of zoosporic fungi for aquatic habitats

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c- Occ urrence, distribution and population of aquatic fungi as affected by turbidity, light and Water temperature.

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d- Adaptation of aquatic hyphomycetes for water ecosystem:-

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e- Adaptation of aquatic ascomycetes for water ecosystem:

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5- Write on only one of the following points:

(6 Marks)

A- Different routes for origin of aquatic Ascomycetes:-

- a-
- b-
- c-

B- The main difference between Ingoldian fungi and Aeroaquatic hyphomycetes:

Aeroaquatic hyphomycetes	Ingoldian fungi
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The Best Wishes

Prof. Abdel-Raouf Khallil



Answer the following Questions

Q1. Choose the correct answer (Answer 10 points only): (10 marks)

- 1- The main chemical constituent present in *Ammi majus*:
(a) Flavonolignan (b) Phenol (c) Tannin (d) Coumarin
- 2- Which of the following is disadvantage of medicinal plants cultivation:
(a) Economical improvement (b) Conservation of water (c) High cost of production (d) Environmental protection
- 3- Starch can be used as a starting material for some industrial products such as:
(a) Maltose (b) Acetone (c) Glucose (d) All the preceding
- 4- When the drugs arranged according to, it will be divided to flowers, fruits, leaves, seeds.
(a) Therapeutic uses (b) Alphabetical (c) Taxonomy (d) None of preceding
- 5- The book which contains a list of the official drugs is known as:
(a) Pharmaceutical (b) Pharmacopeia (c) Pharmacology (d) Pharmacognosy
- 6- Hepanox capsules is a pharmaceutical preparation for:
(a) *Silybum marianum* (b) *Cyperus rotundus* (c) *Acacia nilotica* (d) *Portulaca oleracea*
- 7- The volatile oil "anethol" in anise used as:
(a) Antispasmodic (b) Carminative (c) Anthelmintic (d) Diuretic
- 8- The author who write the book "Canon of Medicine" is:
(a) Discorides (b) Ibn al-Baitar (c) Ibn Sina (d) Al-Ghassani
- 9- Which of the following is aggregate crystals:
(a) Micro Rosette (b) Acicular (c) Styloid (d) Twinned
- 10- It is produced during ripening of fruits, has high molecular weight and it disperses in water as viscous colloidal solution:
(a) Mucilages (b) Calcium Oxalate (c) Inulin (d) Pectin
- 11- The book "Minhag ad-Dukkan" was wrote by:
(a) Ibn Sina (b) Abu Bakr ar-Razi (c) Ibn al-Rumiya (d) None of preceding

Q2. Write briefly on 2 only of the following medicinal plants, mention the part used, chemical composition, pharmaceutical preparations and folkloric uses for each one: (10 marks)

- 1- *Cyperus rotundus*
- 2- *Hyoscyamus muticus*
- 3- *Ricinus communis*

باقي الأسئلة في الخلف

Q3. Write short notes on 3 only of the following: (15 marks)

- 1- Light, temperature and latitude as factors affecting the variability of drug activity.
- 2- The economic value of phytomedicines.
- 3- Inulin.
- 4- Plant Gums.
- 5- Dawud al-Antaki, Ibn al-Baitar, Discorides.

Q4. Write the *sources* and *uses* of 3 only of the following chemical substances: (15 marks)

- 1- Thymol
- 2- Vinblastine
- 3- Caffeine
- 4- Atropine
- 5- Ephedrine

End of the Exam

With My Best Wishes Dr. Ahmed Faried