



Advanced Plant Anatomy  
Course No.: 321B  
50 Marks  
Time allowed: 2 hours

Faculty of Science  
Botany & Microbiology Dept.  
First semester 2016/2017  
3<sup>rd</sup> level (Special Botany)

**Answer the following questions with the help of suitable diagrams:**

**1- Answer the following sentences with true (✓) or false (X):** **(10 marks)**

- 1- From the anatomical point of view, the roots are more advanced than stems because it differentiated into appreciably distinct regions.
- 2- In hydathods, loss of liquid water is controlled by two guard cells.
- 3- Collenchyma is common in monocot stems for supporting instead of secondary thickening.
- 4- Phellogen is a good example for secondary merestims.
- 5- Vessels are more advanced and more effective in conductance than tracheids.
- 6- Parenchyma is more primitive than other tissues.
- 7- In the aogenous stomatal type, the meristemoid gives rise directly to both the guard cells and subsidiary cells.
- 8- Periclinal division of meristematic cells leads to an increase in thickness of organs.
- 9- Usually, the phloem possesses a centripetal development.
- 10- The phloem of gymnosperms is composed of companion cells and sieve cells.

**2- Complete the following sentences:** **(10 marks)**

1. Classifications of stomatal types are based either on....., or on .....
2. The main differences between tracheids and fibers are:
  - 1- .....
  - 2-.....
  - 3- .....
  - 4- .....
3. When the perforation in vessel elements have one opening, it called .....
4. When the phloem damaged or cut, the sieve plates are plugged by .....
5. The function of velamen in roots of some epiphytic plants are:
  - 1- .....
  - 2-.....

بسم الله الرحمن الرحيم

جامعة اسيوط – كلية العلوم

قسم النبات و الميكروبيولوجى ..... الفصل الدراسى الأول (2016-2017)  
الماده: نباتات طبيه (تكميلى) - (333 ن) ..... الزمن: ساعتان

**Answer The Following Questions .... (50 Marks).**

**I- Complete the following sentences:-..... (18 Marks).**

1. .... wrote a book entitled “Botanical Journey”
2. The best means of ..... is to ensure that the population of species of plants continue to grow and evolve in the wild and in their natural habitats.
3. The natural products may be:-
  - a- .....
  - b- .....
  - c- .....
4. Inulin replaces ..... as the reserved carbohydrate in the subterranean organs of a number of ..... species.
5. Calcium oxalate may be formed in the cell as a result of:-
  - a- The reaction of the salt of calcium absorbed from the soil and ..... produced in the plant.
  - b- Super-saturation of the cell sap with .....

**II- Write brief note for 4 ONLY of the following: .....**

..... (16 Marks, 4 marks eah).

1. Advantages of the collection of wild medicinal plants.
2. Classification of drugs.
3. Active constituents.
4. Description of any drug.
5. Phytogeographical regions of Egypt.

**III. Give an accounts of 2 ONLY of the following**

..... (16 marks, 8 marks each).

1. Ecological factors affecting variability of drug activity.
2. Four examples of medicinal plants.
3. Classification of drugs.

**GOOD LUCK**

**Prof. Dr. A.A. Fayed**

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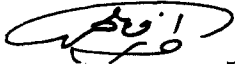
3- Answer Two only of the following:- (2 x 7½ = 15 marks)

- a- Summarize the five different types of 2<sup>ly</sup> thickening in herbaceous stems.
- b- Describe the pattern of 2<sup>ly</sup> thickening in *Leptadenia* stem.
- c- Describe the types and evolution of nodal structure in dicot plants.

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4- Answer Three only of the following:- (3 x 5 = 15 marks)

- a- Compar between sieve cells and sieve tubes.
- b- What are the differences between agenuous, perigenous and mesogenous types of stomata.
- c- Account the significant anatomical changes occurring in root-stem transition zone - illustrating only one example.
- d- Write short notes on: - Endodermis, - bordered pits, - Periderm.

  
Prof. Dr. T. Ramadan

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Good Luck

Assiut University Academic Programs: Microbiology and Chem. & Microbiology  
Faculty of Science Studying Year : 2016/ 2017  
Department: Botany & Microbiology Allowable Time : Two hours  
Course Code 393B, Course Title: Physiology of Fungi  
Total Degree: 50 marks Forth & Third levels, First Semester

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**Final Term Exam**

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1. Describe only four of the following: (24 marks, 6 for each)
- Phases of growth in filamentous fungi.
  - Physiological adaptation of yeast under osmotic stress.
  - Nutrient uptake strategies in fungi.
  - The principle biological components of an idealized fungal cell with special reference to their functions.
  - Chemical characters of fungal cell walls.
- 2- Explain the main physiological roles of only four of the following: (16 marks, 4 for each)
- Plasma-lemma and Micro-bodies in fungal cell.
  - Fungal cell wall and septa.
  - Phosphorus and Zinc in fungal nutrition.
  - Visible light and internal factors on fungal growth and their metabolites.
  - Lipids and pigments as non-living contents of fungal cell.
- 3- Comparing between each of the following: (10 marks, 2 for each)
- Chemical structure of B-glucan and chitosan as fungal cell wall components.
  - Suitability of molasses and cheese whey as media for fungal growth.
  - Mechanisms of survival of fungi at low and high temperature.
  - Normal slant and lyophilization as fungal preservation methods.
  - Utilizable form of carbon and nitrogen sources for fungal growth.

***WITH MY BEST WISHES***

**Prof. Dr.: A. A. Zohri**



First Semester final Examination  
 (Microbial toxins)

Subject: Course 393B

Students: (Microbiology; Chemistry and Microbiology sections)

General Instructions: -Answer the following questions.

Q1. Place a tick  in the correct answer. (15 marks)

1. Which one of the following is nephrotoxin and increases prenatal mortality of embryo?  
 a. zearalenone      b. ochratoxin A      c. penicillic acid      d. alternariol
2. Which one of the following affects on the reproductive system?  
 a. aflatoxin B<sub>1</sub>      b. citrinin      c. zearalenone      d. kojic acid
3. Which one of the following is related to difurocoumarolactone series?  
 a. afl.G<sub>1</sub>      b. afl.B<sub>1</sub>      c. afl.M<sub>1</sub>      d. aflatoxicol
4. Which one of the following is correct for formation of afl.M1 from afl.B1?  
 a. reduction      b. demethylation      c. epoxidation      d. hydroxylation
5. Which one of the following causes equine leucoencephalomalacia in horses?  
 a. fumonisin B<sub>1</sub>      b. Patulin      c. afl.B<sub>1</sub>      d. ergometrine
6. Which one of the following is derived from pentaketides?  
 a. citrinin      b. kojic acid      c. afl.G<sub>1</sub>      d. patulin
7. Which one of the following is considered as the main producer of sterigmatocystin?  
 a. *A. wentii*      b. *A. niger*      c. *P. chrysogenum*      d. *A. versicolor*
8. What is the range of LD<sub>50</sub> (ug/Kg) of microcystins?  
 a. 10-20      b. 20-50      c. 50-100      d. 100-200
9. Which one of the following is the main producer of marine toxins?  
 a. Chrysophyta      b. Cyanophyta      c. Phaeophyta      d. Pyrrophyta
10. Which one of the following is the correct group of domoic acid ?  
 a. PSP      b. DSP      c. NSP      d. ASP
11. Which one of the following represents the mode of action of anhrax toxin?  
 a. adenylate cyclase      b. pore- former      c. N-glucosidase      d. deamidase
12. Which one of the following toxins can penetrate the target cell directly and /or by RME?  
 a. anthrax      b. cholera      c. diphtheria      d. tetanus
13. Which one of the following is a cyanobacterial hepatotoxin ?  
 a. anatoxin      b. nodularin      c. hemolysin      d. aphantoxins
14. Which of the following is required by small dose for inducing bacterial disease symptoms?  
 a. endotoxins      b. exotoxins      c. polyamines      d. H<sub>2</sub>S
15. Which of the following is involved in toxoids formation?  
 a. protein toxin      b. lipopolysaccharides      c. proline      d. glucose

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Assiut University  
Faculty of Science  
Botany & Microbiology Department

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Examination for **Plant Geography B341**

Time allowed : **Two Hours**

Jan, **2017**

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**Answer the following questions**

I – What is the difference between dispersal and migration . Write short account on the dispersal by wind and water and their barriers. ....( 20.0 marks ).

II- Explain **Five ONLY** of the following terms and their phytogeographical significance: ..... ( 15.0 marks ).

- |                          |                  |
|--------------------------|------------------|
| 1- Endozoic and Ectozoic | 4- Vocariods     |
| 2- Isotherms             | 5- Tree limit    |
| 3- Pantropic             | 6- Endemic areas |

III- Write short notes on **THREE ONLY** ..... ( 15.0 marks ).

- 1- Endemic taxa and why endemism.
- 2- Relic areas .
- 3- Speciation.
- 4- Biotypes and ecotypes.

**GOOD LUCK**  
Prof. Dr. F.M.Salama



**Final Exam. of First Semester (Jan. 2017)**

For the 3<sup>rd</sup> level students (Honor Microbiology & Chem. And Microbiology)

Subject: Biology of Aquatic Fungi (361 B)

Maximum Allowed Time: 135 Min.

**Q.1- Give reasons for each of the following: (6 Marks)**

- a- The palatability and nutritional value of the fungal colonized leaves for aquatic invertebrates.
- b- The superiority of aquatic fungi to heterotrophic bacteria as pioneer colonizers in aquatic ecosystem.
- c- Predominance of Aquatic Hyphomycetes on submerged leaves in aquatic ecosystem rather than terrestrial fungi.

**Q. 2- Discuss using illustration (whenever possible) Each of the following:- (12 marks)**

- a- Capability and adaptation of zoosporic fungi, Aquatic hyphomycetes and Aquatic sac fungi to colonize various substrata, grow and populate in aquatic ecosystem.
- b- Vertical stratification of Aquatic ecosystems, referring to some microorganisms which adapt to each zone (layer).
- c- Aquatic fungi could be used for biological control. Support your answers with some examples.

**Q.3- Define Briefly Eight Only of the following:- (16 Marks)**

Saprolegniosis- Scavengers- Lotic habitats – Allelopathy - Antagonism - Aero-aquatic Hyphomycetes – Versatile fungi – Transient fungi- Eurythermic aquatic fungi.

**Q.4- Write Briefly on Three Only of the following: (9 Marks)**

- a- Effect of turbidity, light, water flowing and temperature on biodiversity, population and occurrence of Aquatic fungi.
- b- The characteristic features and the biological role of rumen fungi.
- c- Morphometric features of an Aquatic habitat.
- d- Different routes for the origin of aquatic Ascomycetes.

**Q.5- Give the scientific term which is related to Seven Only of the following (Design a table for your answers):- (7 Marks)**

- a- Aquatic fungi showing regular movement between aquatic and extra-aquatic habitats.
- b- Two usually independent organisms cooperate to break down a nutrient neither one could have metabolized alone.
- c- The simultaneous demand by two or more organisms for limited environmental resources, such as nutrients, living space, or light
- d- The community which held together by complex interactions between the biotic and abiotic factors in a given water area.
- e- The interaction between two different aquatic fungi at which one member benefits while the other does not benefit nor is it harmed.
- f- Higher anamorphic fungi which regularly occurs on submerged decaying leaves of dicotyledonous trees and shrubs, particularly in clean running and good aerating water.
- g- 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.
- h- The physical location in the environment to which an organism has adapted.
- i- The variation of life forms according to genera and species in an aquatic habitat.



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3. When the perforation in vessel elements have one opening, it called .....
4. When the phloem damaged or cut, the sieve plates are plugged by .....
5. The function of velamen in roots of some epiphytic plants are:
  - 1- .....
  - 2-.....





Final Exam  
2016/2017



Botany & Microbiology  
Department

Advanced virology (381B)  
(Credit hours)

Faculty of Science  
Time: 2 hours

Please answer the following: [Total 50 marks]

Q1: Complete 13 only from the following statements: (13 marks)

- 1- The types of vaccines are ..... , ..... and .....
- 2- The naked delivery of siRNA to the animal cell occurs by using ..... or ..... or .....
- 3- ..... classified viruses on the basis of replication Strategies
- 4- The entry of the virus to animal cell occur via ..... or .....
- 5- The Beneficial uses of bacteriophages are ..... and .....
- 6- The viral replication stages are .....
- 7- The assembly of most DNA viruses occur in .....whereas, the assembly of most RNA viruses occur in .....
- 8- Some of virus particles contain enzymes such as .....
- 9- Viral envelope is responsible for .....
- 10- The genomic RNA of ..... viruses is not translatable
- 11- Poliovirus is transmitted by ..... whereas HIV is transmitted by .....
- 12-T4 phages enter bacterial cells by .....
- 13-Viral structural proteins are .....
- 14-Monitoring of siRNA carried out by using ..... or ..... or .....

باقى الأسئلة بالخلف

Give the toxic effects and mode of action of each of the following: (10 marks)

Microbial Toxin	Toxic effects	Mode of action
Diphtheria		
Cylindrospermospin		
Fumonisin B <sub>1</sub>		
Okadaic acid		



3<sup>rd</sup> level (Microbiology & Botany Students)  
Pathogenic Microorganisms (397 B)

Final exam: 4<sup>th</sup> January 2017  
Time allowed: 2 hours

*Answer the following three questions*

(Total marks = 50)

- I) Choose the correct answer (or complete) for only fifteen of the following (15 marks)
- 1) Which of the following diseases is sexually-transmitted?  
\* Meningitis      \* Tuberculosis      \* Aspergillosis      \* AIDS
  - 2) Which of the following can only reproduce within the living cells of a host?  
\* Fungi      \* Viruses      \* *Mycobacterium*      \* *E. coli*
  - 3) Which of the following microorganisms form endospores greater in their diameters than their vegetative cells?  
\* *Bacillus*      \* *Sporosarcina*      \* *Escherichia*      \* *Clostridium*
  - 4) The Rickettsiae are  
\* Filamentous fungi      \* Bacteria      \* Viruses      \* Yeasts
  - 5) Which of the following can cause mad cow disease in cattle?  
\* *Candida albicans*      \* *Aspergillus flavus*      \* *Bacillus cereus*      \* Prions
  - 6) Fungal infection of the cornea is termed as  
\* Tinea corporis      \* Keratitis      \* Onychomycosis      \* Tinea capitis
  - 7) Otomycosis is a superficial fungal infection of the  
\* Vaginal tract      \* Intestinal tract      \* Ear canal      \* Urinary tract
  - 8) CHROMagar is a diagnostic medium for species of  
\* *Mycobacterium*      \* *Saphylococcus*      \* *Aspergillus*      \* *Candida*
  - 9) Which of the following genera constitute the major bulk of bacteria in the gut?  
\* *Bacillus*      \* *Escherichia*      \* *Bacteroides*      \* *Staphylococcus*
  - 10) Which of the following is used in prevention and control of animal diseases?  
\* Sterile drinking water      \* Quarantine      \* *Candida* spp.      \* Prions
  - 11) The presence of toxins in the blood is termed as .....
  - 12) The normal microbiota found in the genitourinary tract are mainly ..... and .....
  - 13) Typhoid is caused via ingesting food contaminated with .....
  - 14) Give one structural component found in the cell wall of bacteria but not in that of fungi and *vice versa*.
  - 15) Body fluids which are sterile and do not have normal microbiota in healthy people are ....., ..... and .....
  - 16) Secondary metabolites that may cause mycotoxicoses are .....and .....

**Q2. Give reasons for each of the following: (10 marks)**

**1. Penicillic acid is an antibacterial agent.**

**2. Ozonation and filtration are efficient method in the removal of cyanobacterial toxins.**

**3. Similarity between bacterial exotoxins and enzymes.**

**4. Sterigmatocystin is similar to aflatoxins.**

Q4. Complete the missing data in the following Table. (15 marks).

Microbial Toxin	Target system	Chemical structure
Zearalenone		
Afl.B <sub>1</sub>		
Saxitoxin		
Domoic acid		

Good luck  
Prof. Dr. Ahmed Lotfy El-Sayed

**Q2: What is meant by the following abbreviations: (6 marks)**

- 1- ssDNA
- 2- siRNA
- 3- CPE
- 4- HBV
- 5- TEM
- 6- ICTV

**Q3: Give the definitions for THREE only of the following: (6 marks)**

- 1- Antisense therapy
- 2- Vaccine
- 3- Syncytia
- 4- Virion
- 5- Interferone

**Q4: Explain TWO only of the following: (10 marks)**

- 1- Viral life cycle in animal cell
- 2- Morphological effects of animal viruses on host Cells
- 3- Paltimore classification of viral classes

**Q5: Write and draw TWO only for the following: (10 marks)**

- a- Mechanism of RNA silence
- b- Role of biotechnology in production of anti-HBV vaccine
- c- The viral shedding from infected animal cell

**Q6 : Answer (by Comparison) One only of the following: (5 marks)**

- a- Plant viruses and animal viruses
- b- The differences between virus and other microbial agents

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Best Wishes

Dr. Naeima Yousef