Faculty of Science Botany & Microbiology Department		كلية العلوم قسم النبات والميكروبيولوجى
Actenomycetes (472B) Time: two hours Degree exam: 50 marks	Second semester exam - the academic year 2016/2017 Fourth Division - Faculty of Science Exam date: Wednesday, 24/05/2017	

Answer allthe following questions:

The first question: Write brieflyaboutfive only of the following**(20 marks)**

a. Classical identification of actinomycetes.
b. Clinical disease and microbiological diagnosis of *Nocardia.*
c. Mode of action of *Streptomyces* as antifungal.
d. Antibiotic sensitivity of actinomycetes.
e. Pathogenic *Streptomyces.*
f. Pulmonary,thoracic and abdominal actinomycosis.

The second question: answerfour only of the following:**(8marks)**

1. Why are *Streptomyces* unique among microbes in producing so many antibiotics?
2. How is *Actinomyces* diagnosed?
3. Why is *Nocardia* sometimes mistaken for a TB infection?
4. How do you visualize *Nocardiaasteroides*?
5. How do you treat *Actinomycesisraelii* infection?

The third question: Place the sing (√) in front of write sentences and (x) in front of wrong one, and then correct the wrong one:**(10 marks)**

1. Nocardiosis has a low mortality rate.

2. *Actinomyces* species are facultatively anaerobic except *A. israelii* which is obligate anaerobe.

3. Actinomycosis is a chronic supportive and granulomatousdisease of the cervico-facial, thoracic or abdominal areas.

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4. For culturing of *Actinomyces*, suitable mediais thioglycollate broth.

5. Mycobacterial cell walls contain waxes with 6 to 9 carbon mycolic acids

6. Slow growing mycobacteria such as *M. tuberculosis* are so hydrophobic that nutrients can easily diffuse in.

7. Cord factor consists of 2 long chain fatty acids hooked together by a trehalose.

8. *Nocardia* considered as a parasitic pathogen causing nocardiosis.

9. Tetracycline used to treat acne and cholera.

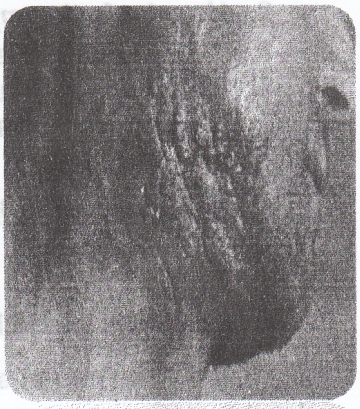
10. Preservation of actinomycetes like that of bacteria such as subculturing, freezing especially in liquid nitrogen.

The fourth question:

a. Compare between each of the following:**(6 marks)**

1. Numerical Taxonomic Approach and Chemotaxonomical Approach of actinomycetes
2. *Rhizobium* and *Frankia*

b. Write the causal agent and the case in each picture:**(6 marks)**



Good luck

Dr. Amal Danial

Assiut University
Faculty of Science
Botany&Microbiology Dept.
Course code: (498 N)

Final exam of: food microbiology
Year: 2016/2017
Time: 2 hour
Total marks: 50 marks

Part (1)

A. Write on only four of the following questions. (20 Marks)

1- **Important Yeasts in food**

2- **Predominant microorganisms in Animals, Birds, Fish and Shellfish**

3- **Normal Microbiological quality of vegetables, fruits and nuts**

4- **Benefit uses of fungi in food industry**

5- **Normal Microbiological quality of vegetables, fruits and nuts**

B. Answer with (X) or (√) only five . (5 marks)

1- Many yeasts produce different types of flavor such as roasted nutty ( )
flavors by strains of *Bacillus subtilis* and *Lac. lactis.*

2- Contamination of foods with pathogenic bacteria (such as *Pseudomonas* ( )
and Flavobacterium), moulds, viruses, and parasites from water has been recorded.

3- The disadvantages of microbial proteins is high nucleic acid content ( )
(RNA and DNA; 6 to 8%).

4- Xanthan gum is an EPS produced by *Leuconostoc mesenteroides* while ( )
growing in sucrose, is used as a stabilizer in ice cream and confectioneries.

5- Bottled water should not contain more than 10 to 100 bacteria ( )
and >10 coliforms/100 ml.

6- ***Alternaria*** *sp.* induces rotting of fruits, rancid flavor in dairy products ( )
and considered as mycotoxins producer.

DR/ MAYSA M. A. ALI

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Part 2 (25 marks)

A. Answer only four of the following questions. (20 Marks)

1. **How you can control of microorganisms in foods by physical removal**
2. **Define food preservation and discuss the food preservation principles**
3. **Explain the action of low-temperature preservation on microorganisms and what the factors affecting on low-temperature preservation**
4. **What is the indicators of bacterial pathogens and criteria for ideal indicators (five only)**
5. **Write short account on Foodborne Infection and give one example**

B. Choose the correct answer: (5 Marks)

1. In highly salted or sugar foods, microorganisms dehydrate, shrink, and die because of the osmosis that has occurred
   a) True b) False

2. ..... is the number of degrees the temperature has to be increased in order to reduce the thermal death time tenfold.
   a) D- value b) Z- value
   c) F-value d) low temperature

3. Processed foods such as chicken pot pies, whole egg custard,and egg salad also may be sources of
   a) *Staphylococcus* b) *Chlamydia*
   c) *Salmonella* d) *E. coli*

4. Two types of grain spoilage are ..... and .....
   a) aflatoxins, ergotism b) botulism, ergotism
   c) *Staphlococcus, Streptococcus* d) aflatoxins, enterotoxins

5. Species which may produce a heat-stable enterotoxin:
   a) *Bacillus cereus* b) *Clostridium botulinum*
   c) *Escherichia coli O157:H7* d) None of above

Assiut University **Faculty of Science** **Botany & Microbiology Dept**		**جامعة أسيوط** **كلية العلوم** **قسم النبات والميكروبيولوجى**
Microbial ecology (494B)	**Final exam** **21 May 2017**	**Time: 2 hours**
Microbiology & Chemistry/Microbiology		**4rd level students**

Answer the following questions (25 Marks)

I. Give short notes about 3 of the following: (6 marks)

1. Classification of marine ecosystem according to depth
2. Negative microbial relationships
3. Three types of Autochthonous bacteria present in water habitats
4. Two examples of micobiota in each of healthy nose and oral cavity

II. Compare between the following (answer only 3) (6 marks)

1. Effects of plants and soil microbiota on each other
2. Population & Community
3. Planktons & Periphyton
4. Mesosaprobic & Oligosaprobic zones

III. Choose the correct answer for 13 of the following: (13 marks)

1. All of the microbial cells in the human body are collectively called:
   a. Human Genome b. Human Microbiota
   c. Human Microbiome d. Biofilm
2. Which of the following statements is **true**
   a. Hypolimnion is warmer and has a higher pH than epilimnion
   b. Epilimnion is warmer and has a higher pH than hypolimnion
   c. Epilimnion is cooler and has a higher pH than hypolimnion
   d. Hypolimnion is warmer and has a lower pH than epilimnion
3. Which of the following is **false**?
   a. The number and amount of many different microbes can vary from person to person
   b. The number and amount of many different microbes can vary in different sites in the same person
   c. Microbiota of all newly borne babies are the same
   d. The number and amount of many different microbes vary from patients to healthy person

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4. Good example of transporting microorganisms in water:
   a. *Pseudomonas* b. Archaebacteria c. *Vibrio cholera* d. All of the above

5. The organism that produces inhibitory substance against other organism is named:
   a. predator b. symbiont c. antagonism d. commensalism

6. Which of the following is **true** about microbes in the nasal cavity?
   a. *Staphylococcus epidermidis* forms biofilm coating mucosal lining
   b. *Streptococcus mitis* forms biofilm coating mucosal lining
   c. Both *S. epidermidis* & *S. mitis* form biofilm coating mucosal lining
   d. *Fusobacterium* forms biofilm coating mucosal lining

7. Which of the following is **true** about microbes in the oral cavity?
   a. *Aspergillus* is a fungus that causes an oral infection known as thrush
   b. Oral microbes form an elaborate scaffold on the tooth enamel
   c. Tooth brushing washes away all of the oral microbes every day
   d. Eating extremely hot or cold food kills off all of the oral microbes

8. Which of the following is not characteristic of microbes lakes?
   a. Pleuston b. Benthos c. periphyton d. None of the above

9. What is a guild?
   a. A group of microhabitats b. A group of organisms within the same niche
   c. An individual species d. A population with metabolically related processes

10. True or false: Lotic water systems are slow-moving
    a. True b. False

11. Which of the following is not common in marine ecosystems?
    a. Dinoflagellates b. Phytoplankton c. Cyanobacteria d. brown algae

12. What type of relationship is amensalism?
    a. Both populations benefit
    b. Both populations are damaged
    c. One population benefits while the other suffers
    d. One population benefits while the other is unaffected or negatively affected

13. Lichens are considered as
    a. Commensalism b. Mutualism c. Parasitism d. Ammensalism

14. One would expect microbes to be found in each of the following areas EXCEPT the
    a. large intestine b. oral cavity c. blood d. urine

15. Microorganisms that grow between 400-500 atm pressure are called:
    a. Barophobic b. Psychrophiles c. Barophiles d. Thermophiles

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With my best wishes

Dr. Nemmat A. Hussein

Part 2 (25 marks)

A. Answer the following questions. **(10 Marks)**

1. **Explain only one of lithospheric cycles**
2. **Discuss the methods and conditions to be met to success bioremediation**

B. Write short account on the following (only five): **(10 Marks)**

1. Edaphon
2. Cation exchange capacity
3. Biogeochemical cycles
4. Bio-fertilizer
5. Siderophores production
6. Xenobiotics

C. Write TRUE (√) if the statement is correct or FALSE if it is incorrect (X), and correct the FALSE statments: **(5 Marks)**

1. Lignin is the most resistant substance to decompose among the plant materials ( )
2. Atmospheric CO_2 is fixed into organic compounds by plants, together with only chemoautotrophic microorganisms ( )
3. Decomposition of cellulose occurs faster in soils of basic pH ( )
4. In ammonification process, microbial conversion of various nitrogen salts back to atmospheric N_2 ( )
5. Allochthonous microorganisms: these are the microorganisms naturally inhabit the environment undergoing purification. ( )

Best wishes
Dr. Shymaa Ryhan Bashandy

Assiut University
Faculty of Science
Botany&Microbiology Department

Date: May , 2017
The time allowed: 2 hours
Total marks: 50

Second Semester-Final Examination Subject: Symbiosis Microbiology (B496)

Students: (Microbiology; Chemistry and Microbiology Sections)

First Part

I. Write an account on the symbiosis and their importance for five only of each of the following: (10 marks)

a. Bioluminescent bacteria-deep sea fish.
b. Bacteria- aphid and leaf hopper.
c. Bacteria-termites.
d. Cyanobacteria -Bryophyte
e. *Nostoc- Azolla*
f. Cyanobacteria-Cycads.

II. Describe mechanisms of infection process and nodule development of *Frankia*-plant mutualism. (10 marks)

III. Compare and contrast between an indeterminate and determinate nodule types of legumes. (5 marks)

With My Best Wishes
Prof. Dr. Mohamed Hemida Abd-Alla

Second Part

1. Write short notes on: (Answer 3 only) (9 marks)

   A. Development of intraradical hyphae of AM fungi.
   B. Lichen thallus.
   C. Life cycle of AM fungi.
   D. Grouped of mycorrhizal plants.
   E. Sources of mycorrhizal hyphae that penetrate the epidermal root cells.

2. Discuss the function of the following: (Answer 3 only) (6 marks)

   A. Mantle.
   B. Ericoid mycorrhizas.
   C. Extraradical mycelium of AM fungi.
   D. Vesicles.

3. Differentiate between: (Answer 2 only) (5 marks)

   A. Foliose and fructicose.
   B. Arbutoid and monotropoid mycorrhizas.
   C. Sexual and vegetative reproduction of lichen.

4. Put (√) or (x) and correct the false sentences: (5 marks)

   A. Root colonization brings the symbiotic interaction and dependent on fungal propagule.
   B. Ericoid mycorrhizal plants involve the colonization of epidermal cells followed by the formation of hyphal complex in each colonized cell.
   C. All fungal species involved in the ectomycorrhiza symbiosis belong to families in the Basidiomycotina.
   D. Intracellular hyphae develop a hyphal complex within epidemial and cortical cells in ectendomycorrhizal plants.
   E. Isidium is a small outgrowth of lichen thallus and mean of asexual reproduction.

With My Best Wishes
Dr. Nivien Allam