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| 1969 | TANTA UNIVERSITY<br>FACULTY OF SCIENCE<br>DEPARTMENT OF BOTANY | | | |
| | FOURTH YEAR (MICROBIOLOGY) FINAL EXAM. | | | |
| | COURSE TITLE: | Yeast, Protozoa, Nematoda and the role of insects in disease transfer | | COURSE CODE: 14083 |
| DATE: 12/1/ | January. 2013 | TOTAL ASSESSMENT MARKS: 60 | TERM: FIRST | Time allowed: 3 hours |

**Answer the following questions with drawing if possible:-**

## Section I:- Yeast — 20 Mark

**1- Discuss briefly three only from the following: — 12 Mark**

**a- Test used for pheromone activity.**

**b- Growth measurement of yeast.**

**c- Key to the major basidiomycetous yeasts (McGinnis, 1980).**

**d- Life cycles of ascosporogenous yeasts.**

**2- Choose one answer. — 8 Marks**

**a- The pheromones of the Tremellales have been named:**

**1. tremerogens- 2. α-pheromone- 3. A-pheromone- 4. a-pheromone**

**b- The pheromone of *R. toruloides* is termed:**

**1. rhodotorucin A- 2. rhodotorucin B- 3. rhodotorucin F- 4. rhodotorucin C**

**c- Yeast could be occure:**

**1. in plants 2. in soils, water 3. in association with animals 4. All of them.**

**d- The Yeasts from taxonomic point of view are:**

**1. Ascomycetous 2. Basidiomycetous 3. Deuteromycetous 4. All of them.**

**e- The term teleomorphe is:**

**1. The sexual life cycle of the yeast organisms 2. The asexual life cycle of the yeast organism 3. The sexual and asexual life cycle of the yeast organism 4. All of them**

**f- The Yeasts from growing point of view are better to be growing in:**

**1. Batch culture form 2. Continuous culture 3. Solid media form- 4. All of them**

**g- DNA/DNA hybridization data are being used:**

**1. To show phylogenetic relationships in both the imperfect genera and species. 2. To confirm the yeast identification at species level. 3. To determine the similarities between two yeast species. 4. All of the above.**

h- *Filobasidiella neoformans* strains may be:
1. homothallic 2. homothallic and heterothallic 3. heterothallic
4. sterile

## Section II:- Protozoa, and Nematoda 20 Mark

1- First question 15 Mark
a-Discus the role of saliva in Nematoda Feeding? 5 Marks
b- What are the main symptoms of Dilophospra diseases of Cereals? 5 Marks
c- Compare between control of Coconut Palm Nematode and Banana root rot diseases? 2.5 Mark
d -What are symptoms of Dwarf disease of Rice? 2.5 Mark

2- Second question: Complete the following: 5 Marks
a- Sugarcane Mosaic transmitted .....
b- Causal organism of Sugar Beet Nematode disease.....
C -*Meloidogne hapla* cause .....disease and its symptoms .....,, .....
d -*Ditylencus dipsaci* cause .....

## Section III:- Role of insects in disease transfer 20 Mark

1- Compare briefly between the following: 10 Marks
a) Leaf hopper (*Ommatissus binotatus*) and frog hopper (*Thomapsis saccharina*).
b) *Phytomonas coronofaciens* and *Phytomonas angulata* diseases.

2- Explain the following:- 10 Marks
a) How insects transmit bacteria and fungi with mention examples for each method.
b) The relation between flea beetle and tomato leaf spot disease (explain the disease).

Best wishes
Prof. Dr. Alaa Abou-Zeid - Prof. Dr. Susan Assawah-
Prof. Dr. Eman Abd El-Zaher

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| | TANTA UNIVERSITY<br>*Faculty of Science*<br>*Department of physics* | | | |
| | EXAMINATION FOR FRESHMEN (FOURTH YEAR) STUDENTS OF GEOLOGY AMD MICROBIOLOGY | | | |
| 1969 | *Course title:* | حاسب آلي (رابعة ميكروبيولوجي وعلم الحيوان) | | *Course Code:* |
| *Date:* | *Jan: 2013* | *Term: first* | *Total assessment Marks:30* | *Time ALLOWED: 2 hours* |

***Answer The Following Questions:***

***First Question:***

*Complete the following sentences:*

1. *All data in a field of database have the same……*
2. *To display the main database window we press……*
3. *The data type of phone number in a table of data base must be……*
4. *A database cannot be created without at least one ……*
5. *A raw in database table represent one……*
6. *Calculation cannot be made in……of database.*
7. *A column in database table represents one……*
8. *The date type of birth day field in a table of database must be……*
9. *The toolbox in Access Program contains several buttons such as……;……*
10. *The suitable data type of salary field in a table of data base is ……*

***Second Question:***

1. *Write short note about the different types of relationships between tables.*
2. *Define the following objects: Table; query; Form; Report*

***Third Question:***

1. *What is the function of make a crosstab query and write down the steps of creating it.*
2. *Explain briefly the different ways of creating a form.*

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| *EXAMINERS* | *prof.dr. g.a.gaballa* | |
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| | TANTA UNIVERSITY, FACULTY OF SCIENCE, DEPARTMENT OF BOTANY | | | |
| | FINAL EXAMINATION (JANUARY 2013) FOR 4TH YEAR STUDENTS OF SECTION BOTANY | | | |
| | COURSETITLE: | Phycology and Special course | | COURSE CODE: |
| DATE: 12 | JANUARY, 2013 | FRESH | TOTAL ASSESSMENT MARKS: 60 | TIME ALLOWED: 3OURS |

## I - Phycology — 40 Marks

**I- Choose the correct answer for each of the following: -** — **5 Marks**

1 - Algae means .....
a. Sea weeds b. Lichens c Archegoniate d. Lower plants

2 - Multinucleate Siphonaceous alga is .....
a. *Oscillatoria* b. Vaucheria c. *Cladophora* d. Diatom

3 - The algae with prokaryotic organisation belong to the Kingdom .....
a. Protista b. Plantae c. Monera d. Mycota

4 - The alga is an example of heterotrichous habit is.....
a. *Nostoc* b. Scytonema c. *Rivularia* d. Nothing

5 - Heterocyst present in .....
a. Nostoc b. Oscillatoria c. Viruses d. All

6 - Psuedovacuoles in Cyanophyceae help as organs to .....
a. Regulate buoyancy b. Store food c. Store oxygen d. Store C02

7 - Oil chrysolaminarin and volutin are food reserves of.....
a. Desmids b. Diatoms c. Green algae d. Brown algae

8 - The structure which is responsible for locomotion in diatoms is.....
a. Coste b. Raphe c. Valve d. Girdle

9 - Euglenophyta are classified as .....
a. Animals b. plants c. animals and plants d. Fungi

10 - The members of the class Myxophyceae are characterized by.....
a. Motile stages b. Sexual reproduction c. Flagella d. incipient nucleus

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6 - The lichens consist of member of ..... and member of .....

7 - The reproduction in Cyanobacteria occurs by ..... and .....

8 - Heterocysts are classified according to position into .....and .....

9 - Prokaryotic cells characterize by absent .....and .....

10 - The reserve food material in Diatoms is ..... while the storage food material in Euglena is.....

**IV - With drawing representation defines the triphasic life cycle and give an example for this life cycle.** **3 Marks**

**V- Answer the following questions:** **10 Marks**

A - Compare between the distinguishing features of Chlorophyta and Rhodophyta. **3 Marks**

B - Write short notes on the following with labeled drawing:

1 - Different methods of asexual reproduction of *Ulothrix*. **3 Marks**

2 - Cell division in *Oedogonium*. **2 Marks**

3 - Post-fertilization changes in *Batrachospermum*. **2 Marks**

**VI - A) Answer the following with true or false and correct the false one: 5 Marks**

1 - In Floridiophyceae, the carpospores are produced directly from zygote.

2 - In *Laminaria*, meiozoospores have two anteriory inserted flagella of equal length, the two flagella of tinsel type.

3 - The food reserve of brown algae is called paramylon.

4 - *Ectocarpus* has heteromorphic alternation of generations.

5 - *Volvox* reproduces sexually by isogamy.

**B- Fill in the blanks with the correct term or terms:** **5 Marks**

1 - Autospores are produced in.....

2 - In *Oedogonium*, if the antheridia occur on very small filament (dwarf males) the species are called .....

3 - Across section in the stipe of *Laminaria* shows 3 regions called ....., .....and .....

4 - In *Batrachospermum* the basal part of carpogonium gets swollen and contains ..... whereas, its upper part elongates to form ..... to receive .....

5 - The type of sexual reproduction in *Spirogyra* is called .....

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| | TANTA UNIVERSITY<br>FACULTY OF SCIENCE<br>DEPARTMENT OF BOTANY | | | |
| | EXAMINATION FOR FRESHMEN STUDENTS (SECTION MICROBIOLOGY) | | | |
| 1969 | COURSE TITLE: | Applied Mycology( Fourth Year ) | | COURSE CODE: 14082 |
| DATE: 24 | Jůnuary,2013 | TOTAL ASSESSMENT MARKS: 60 | TERM:First | TIME ALLOWED: 3 hours |

**Question 1: - Write briefly on the following** **( 20 Marks)**

1- Compare between
   A- batch and continuous cultures.
   B- Fermentation medium used for the production of Manitol and citric acid.
2-Recovery of amylase enzyme.
3-purification of Gibberilic acid.
4- Stepwise fasion of commercial process.
5- Methods that induce excretion of amino acids from the cell.

**Question 2:- Complete/ OR Enumerate the following sentences ( 10 Marks)**

1- Various forms of proteases are:- a)..... .b).....c).....
2 -The importance of gluconic acid are: a)..... .b).....
3- Addition of sodium sulfate to the fermentation medium of glycerol production.....
.....
4- Deficincy of trace metals or phosphate in the medium used in the production of citric acid .....
5- Protection against contamination, survival for long time called.....
6- Genetic manipulation is a powerful and useful tool in industrial microbiology because.....
7-Microbes have economic importance because.....
8- The organism used for citric acid production is.....

**Question 3:- Mention the role played by each of the following** **( 20 Marks).**

1-Microorganism in paper deterioration.
2- Phenyl acetic acid in the fermentation of penicillin.
3- Thermophilic sulfer- oxidizing microorganism in bioleaching.
4- Sulfate reducing bacteria in the corrosion of metals.
5- Microorganisms in the compost of mushroom.

**Question 4:- fill in the spaces with** **( 10 Marks)**

1- The fermentation of vitamin B2 depends upon a)..... .b).....
2- The commercial vitamins produced by microorganisms include
a)..... .b)..... ..... c).....
3-In metal corrosion, aerobic corrosion bacteria form.....as corrosion product.
4- Cephalosporin C can be transformed by removal of .....
5- In *Cavicceps* fermentation, the carbon source is.....and nitrogen source is..... in conjugation with.....
6- In biosynthesis of B- carotene, simulators such as a) .....b),....C)... ... are important
7-In riboflavin fermentation, foaming is controlled at the beginning with.....and later on with.....
8- The microbial transformation of the steroids can be done through the following processes a)..... .b)..... .....c).....
9- The antimicrobial agents used to minimize losses due to biodeterioration are
a)..... .b)..... ..... c)..... .....d).....
10-The substrate used in spawn manufacture include a)... ... .b)... ... c)..... d).....

Best wishes Prof. Ilham el refai and prof. M. Metwally- 6

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| | Tanta UNIVERSITY<br>FACULTY OF SCIENCE<br>BOTANY DEPARTMENT | | |
| | EXAMINATION / FOURTH YEAR /BOTANY STUDENTS | | |
| Course Title: | Mycology and photosynthesis | | Course Code: |
| Jan 2013 | Term: Second | Total assessment marks:60 | Time Allowed: 3 hours |

The first part (Mycology)

Answer the following questions:

1-A Discuss the classification of one of the following: (10 marks)

A) Euomycophyta b) Myxomycophyta

B-Write on the sexual life cycle in each of the following:

Phytophthra and Rhizopus

2-A Illustrate classes of Ascomycotina each with detailed characters of the Related ascocarp. (10 mark )

B- Explain how to differentiate between the genera of Erysippaceae.

3- Write on two only of the following: (10 marks)

a- Orders of Teliomycetes.

b- Asexual life cycle in Saprolegnia.

c- Cyathus.

4-Give an account on each of the following: (10 mark )

A- Classification of Deutromycotoia.

B- Life cycle of ustilginaceae.

The second part (photosynthesis)

1- Write on the following: (10 marks)

a) Structure and function of phycobilins.

b) Emerson's effect.

c) Regenerative phase in carbon reduction cycle.

2- Give accounts of the following: (10 mark )

a) Ingenhous.

b) Reaction of photorespiration which occur in mitochondria.

c) Photosynthetic $CO_2$ -fixation in crassulacea.

d) Cyclic photophosphorylation.

d) Fluorescence phenomena.

With our best wishes

Tanta University
Faculty of Science
Botany Department

Time allowed : 3 hours
Section : Microbiology
Date : January 2013

# Microbial Genetics and Virology and Rickettsias

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## Virology and Rickettsiology : Group I (20 Marks)

**1- Write on the following:** **(10 Marks)**

A- Replication of Poliovirus.
B- Overlapping of gene and give example,

**2 – Discuss the following :** **(10 Marks)**

A - Attachment and penetration of virus to host cell.
B - General features of Rickettsia.

## Microbial Genetics : Group IIA (20 Marks)

**1- Explain with labeled schematic diagram:** **(10 Marks)**

A - The "P" elements of Drosophila.
B - Structure of Ty transposable element of yeast.
C - Inducible operon.
D - Attenuation of Trp operon.

**2- Discuss the following briefly:** **(10 Marks)**

A - Processed Pseudogenes.
B - Chemical mutagen.
C - prokaryotic RNA polymerase.
D - Reverse as a mean for detecting mutagens and carcinogens.

## Microbial Genetics : Group IIB (20 Marks)

**I- Complete the following sentences:** **(10 Marks)**

1- If the amount of DNA on the gel less than 25 ng, it can be detected by .....
2- In restriction digestion , $Mg^{+2}$ concentration used for .....
3- In a piece of DNA, a tetranucleotide sequence (GATC) should occur every .....
4- Linkers are .....
5- The enzymes play a direct role in DNA modification is .....
6- Homopolymer tailing involves a polymer in which all the subunits are.....

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7- A blunt end DNA results from cutting DNA in the .....
8- The recognition sequence is a palindrome when both strands are read the same in .....
9- Type II restriction endonucleases cleave DNA at.....
10- Lysogenic infection is the infection in which .....

**II-Write on the following: (10 Marks)**

1- In autoradiography, DNA molecule need to be labeled, describe in detail one of the methods used for labeling DNA molecule.

2- The plasmid are recognized into five main types, mention these types and the charachteristics they coded.

3- What are the functions of the modifying enzymes .

4- By using schematic diagrams, explain how linkers and adaptor are used to convert DNA blunt ends to sticky ends.

5- What are the basic features of bacteriophage and what are the different modes of replication of bacteriophage. Illustrate your answer with schematic diagrams.

Examiners
Prof.Dr.Ilham Elrefai
Dr. Samia Shabana