6- Which toxin contains LPS and triggers fever?
A) Endotoxin B) Exotoxin C) Both D) None

7- Which bacterium can be the source of a neurotoxin that belongs to the AB toxin family and cause a flaccid paralysis?
A) *C. diphteriae* B) *C. botulinum* C) *C. tetani* D) *V. cholerae*

8- The molecular basis for the effect of cholera toxin on duodenal mucosal cells is
A) Activation of adenylate cyclase
B) Increased activity of potassium pumps
C) Increased generation of cAMP
D) Ribosylation of GTP binding protein

9- Toxemia is
A) Toxins in the host's bloodstream
B) Capacity of microorganisms to produce toxins
C) Inactivated toxin used in a vaccine
D) Antibodies against a specific toxin

10- Any inanimate object capable of being an intermediate in the indirect transmission of an infectious agent
A) Carrier B) Fomites C) Reservoir of infection D) Pandemic disease

Forth Question: [15 Degrees]

(A)Complete the following (10 Marks):

1-Molecular determinants of pathogenicity include ……., ……..., ……and…….

2- Bacteria typically employ proteins known as ……to attach to host tissues, which usually are located on ends of ……..

3- Botulinum toxin affects …….. and once across the gut, it is carried in the blood to……

4-…….Toxin produces irreversible muscle contraction.

5- …..Toxin blocks muscle contraction.

(B) Mention the mode of action of the following (5 Marks):

1-Pertussis toxin.

2-Exotoxins.

3-Cholera toxin.

4-EHEC toxin.

5-Endotoxins in the bloodstream.

With our Best Wishes

Examiners

D R. Saida Amer

DR. Sameh samir

Tanta University Faculty of Science Chemistry Department	Industrial chemistry		
	First Term	Course code: CH4155	
	January 2014	Total Assessment Marks:50	
Double major fourth year section		Time allowed: 2Hours	Date : 8/1/2014

(1)– Discuss one of the following **(5 marks)**

a) The manufacturing process of phosphoric acid from thermal process
b) The four raw materials of industrial chemistry

(2)- Select the right answer of the following **(6 marks)**

a) The raw materials of manufacturing ammonia are
1- Air, water and oxygen. 2- Air, water and, hydrocarbons.
3- Air, nitrogen and, hydrocarbons
b) The raw material of hydrogen production from Partial oxidation process is
1- cyclohexane 2- methane 3-sulphoric acid
.c) The raw material of manufacture of white phosphorus is
1- calcium phosphate 2- barium phosphate 3-Copper phosphate

(3)- Correct the following sentences **(6 marks)**

a) Hydrazine use as indicator
b) In Shift Conversion, the carbon monoxide is converted to carbon
c) White phosphorus use industrial strick plate of matchbox

(4)- complete the following sentences **(8marks)**

a) White phosphorus is chemically active because……..
b)The equation of hydrogen manufacture from cook is……
c)The application of phosphoric acid is……
d) The reaction in primary reforming for manufacture of ammonia is……..

(5)- Explain briefly the synthesis of the following: **(25 marks)**

a- Poly vinyl chloride from ethane
b- Poly styrene from benzene
c- Cellulose acetate from methanol
d- Rubber from crude oil

(6) a- Give a brief classification for the types of detergents with examples.
b- The structure of the liquid detergent shampoo, soap and non ionic detergent
c- Preparation of synthetic detergents
d- Powder detergent manufacture.

	Tanta University Faculty of Science Chemistry Department		
	Examination for (Credit hours) Students		
	Course Title	Pesticides	Course Code: CH4119
Date:	January 2014	Total Asssessment Marks: 50	Time Allowed: 2 hrs

I) Mark (√) for the write and (×) for the wrong statements and please correct the wrong one (10 M):

1. Cryolite is injure plant life, while most of fluorides and fluosilicates are safer. ( )
2. Bentazon, bromacil and chloramben are examples of insecticides. ( )
3. Systematic poison depends on contact of pesticide with the pest. ( )
4. Bordo mixture is a mixture of copper oxide and calcium sulfate. ( )
5. β-Isomer of gammexane is the most toxic isomer to the insect. ( )

II) Choose the correct answer and please write the full chemical equation (10 M):

1. Dehdrochlorination of DDT followed by hydrolysis gives:

a) DDA b) Dicofol c) Methoxychlor

2. Effect of heat on γ-isomer of BHC gives:

a) 1,2,3-trichloro benzene b) 1,3,5-trichloro benzene c) 1,2,4-trichloro benzene

3. Action of sulphoryl chloride on chlordene in benzoyl peroxide follwed by oxidation gives:

a) Chlordane b) Heptachlor epoxide c) Endrin

4. Action of Grignard reagent on *p,p*-dichloro benzophenone followed by treatment with H_2SO_4 gives:

a) bis(*p*-chlorophenyl)propene b) bis(*p*-chlorophenyl)ethene c) bis(*p*-chlorophenyl)methane

II) Write the chemical structure and IUPAC name of the following pesticides (10 M):

1. Anabasine 2. Bentazone 3. DDA 4. Bromacil 5. Paris Green

IV) Carry out the following conversions (10 M):

1. 3-Cyano pyridine into nornicotine.
2. Dicofol into chlorobenzilate.
3. Ethyl alcohol into DDT.
4. Cyclopentadiene into aldrin.

V) Write briefly about each of the following (10 M):

1. Theories explain structure activity relationship of DDT.
2. Insecticidal action of nicotine.
3. Sulfer compounds as inorganic insecticides.
4. Pharmaco kinetics of chloramben.

With Best Wishes, Dr. Atif El-Gharably

	Tanta University - Faculty of Science - Botany Department			
	EXAMINATION FOR JUNIOR (4TH YEAR MICROBIOLOGY-CHEMISTRY)			
	Course Title	صون التنوع الحيوى Biodiversity Conservation		Course Code: BO4123
Date	Jan 2014	Term: First	Total Assessment: 100 Marks	Time Allowed: 2 Hrours

السؤال الأول - (50 درجة):

1- متى تفضل المحميات العديدة صغيرة الحجم على المحميات المفردة كبيرة الحجم
2- وضح القيمة الإقتصادية للتنوع الحيوى
3- قارن بين محمية الأثر القومى الطبيعى ومحمية التراث العالمى
4- ماهى المبررات الداعية لصون التنوع الحيوى
5- ماهو المقصود بالنموذجية كإحدى الخصائص التى تختار على أساسها المحميات الطبيعية

السؤال الثانى - ما هو المفهوم العلمى للمصطلحات التالية (50 درجة):

1 – النباتات المهددة بالإنقراض
2 - العائد النوعى (تنوع بيتا)
3 - الهشاشة البيئية
4 - محمية المحيط الحيوى
5 – الحدائق الوطنية
6 - مقياس التصنع
7- السياحة البيئية
8- خاصية التفرد
9- تنوع جاما
10- محمية الحياة التقليدية

Examiner: Dr. Kamal H. Shaltout

	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF CHEMISTRY			
	EXAMINATION FOR LEVEL FOUR STUDENTS (SEMSTER 1) OF CHEMISTRY/BIOCHEMISTRY, GEOLOGY, MICROBIOLOGY, AND ZOOLOGY			
	COURSE TITLE:	BIO-INORGANIC CHEMISTRY		COURSE CODE: CH4159
DATE:	1ST JANUARY, 2014	TERM: FIRST	TOTAL ASSESSMENT MARKS: 50	TIME ALLOWED: 2 HOUR

1. **Only by using fully labeled diagram, explain the following (9 marks):**
   b. The role of Selenium in the mechanism of action of Glutathione peroxidase.
   c. The pathway of Vanadium accumulation and mechanism of Vanadium reduction.
   d. Copper homeostasis.

2. **What are siderophores? Mention their types? Give one example for each type? (4 marks)**

3. **List and explain (8 marks):**
   a. The biological functions of Silicon.
   b. The treatment of Cyanide toxicity.
   c. The biochemical basis of Lithium treatment of psychiatric disorders.
   d. The symptoms of Zinc deficiency.

4. **Write the scientific term of the following (4 marks):**
   a. Iron storage protein.
   b. Vanadium-containing compounds.
   c. Proteins that reduce cytoplasmic Zinc levels.
   d. Its synthesis is stimulated by iron overload.
   e. Catalyzes Iron oxidation.
   f. Mediates import of divalent metals.
   g. Chromium binding protein.
   h. An inorganic element that is required only by plants and plays a structural role in plant cell wall.

5. **What physical techniques could be used most efficiently to determine the following (10 marks):**
   a. The presence of a known metal ion in a biomolecule.
   b. Identification of oxygen-iron bonds (Fe=O).
   c. The coordination geometry of heme-containing porphyrins.
   d. The identity of the donor atoms that coordinate the metal ion in a protein.

6. **Describe Na^+/K^+/MgATPase: Flip-Flop-mechanism? (5 marks)**

7. **Choose the correct answer of the following questions (10 marks):**
   i. What is the coordination of proteins to transition metals?
   a. Amino acids bind transition metal-1
   b. Direct coordination to metal active-site
   c. Indirect coordination: cofactors active-site
   d. All of the above

1969	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF BOTANY			
	FOURTH YEAR (CHEMISTRY \ MICROBIOLOGY) FINAL EXAM.			
	COURSE TITLE:	Yeast biology		COURSE CODE: MB 4101
DATE: / /	January. 2014	TOTAL ASSESSMENT MARKS: 100	TERM: FIRST	Time allowed: 2 hours

Answer the following questions with drawing if possible:-

I- Give short notes <u>on three only</u> from the following: 30 Mark

1- Pheromones effects on yeast.
2- Classification of the anamorphic yeasts.
3- Growth measurement of yeast.
4- The steps of clamp connections within basidiomycetous yeasts.

II- Discuss briefly the three life cycles of ascosporogenous yeasts 30 mark

III- Choose one answer. 10 marks

1- *Filobasidiella neoformans* strains may be:
   a. Homothallic b. homothallic and heterothallic
   c. Heterothallic d. sterile
2- The yeast name is always added after a valid name at:
   a. Choose one answer b. The species level only
   c. Genus or species level d. Non of them
3- The Yeasts from growing point of view are better to be growing in:
   a. Batch culture form b. Continuous culture
   c. Solid media from d. All of them
4- DNA/DNA hybridization data are being used:
   a. To show phylogenetic relationships in both the imperfect genera and species.
   b. To confirm the yeast identification at species level with reference species c. To determine the similarities between two yeast species d. All of the above
5- One of the major characteristics of Feed-batch culture is:
   a. Medium substrate inhibition and the catabolism repression are minimized.
   b. The increase in yeast catabolism.
   c. Medium substrate metabolism d. All of them

See next page

IV- Mark true or false 10 marks

1- Yeast EMP and HMP both lead through glyceraldhyde-3-P to Pyruvic acid.

○ True ○ False

2- Colony color, shape, and texture is descriptive features for yeast Colony Shape.

○ True ○ False

3- Absence or presence of arthroconidia, ballistoconidia, blastoconidia in yeast strain is ones of its sexual characteristics.

○ True ○ False

4- Quantification of pheromone concentrations is usually achieved by end-point determination in serial dilutions of the pheromone- containing fractions.

○ True ○ False

5- Continuous culture represents a closed system.

○ True ○ False

V- Complete the following: 20 mark

1- Morphological response of pheromone in *S. cerevisiae* is ----------

2- Classification of the ascomycetous, yeast-like fungi by .....(1981): Order:

3- Classification of basidiosporogenous yeasts was based on----------

4- Growth is defined as ----------

5- The aim of batch culture is to promote ---------- formation but continuous culture is to increase ---------concentration.

Best wishes
Prof. Dr. Alaa Abou-Zeid

ii. Copper is _____.

a. Lewis acid
b. Not Redox catalyst
c. Electron transfer and oxygen carrier
d. Charge carriers

iii. What is the reaction catalyzed by alcohol dehydrogenase?

a. Oxygen transport
b. Oxidation of primary alcohol
c. Peptide hydrolysis
d. Deoxygenation of nitrite

iv. Functional roles of biological magnesium and calcium are _____.

a. Osmotic and electrochemical gradients
b. Enzyme activators
c. Photosynthesis
d. Insoluble phosphate

Good luck

Prof. Dr. Mohamed El-Zaria
Dr. Hany Elsawy