pospolas (neod (smallind (neod) d.

1969

TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF CHEMISTRY

EXAMINATION FOR LEVEL FOUR STUDENTS (SEMESTER 1) OF CHEMISTRY/BIOCHEMISTRY, BOTANY, MICROBIOLOGY, ZOOLOGY, OR GEOLOGY

Course Title:

BIOINORGANIC CHEMISTRY

Course Code: CH4159

DATE 27/12/2017

TERM: First

Total assessment marks: 50

Time Allowed: 2 HOUR

Answer the following questions with short notes

Question 1

Discuss each of the following:

(15 marks)

- 1- Biosynthesis and secretion of iodine containing thyroid hormone.
- 2- Regulation of blood pH.
- 3- Role of parathyroid hormone (PTH) in Calcium regulation.

Question 2:

Determine the biological function of each of the following elements:

(10 marks)

1- Copper

2-lodine

3-Calcium

4- Chlorine

5- Iron

Question 3:

Explain the following:

(10 Marks)

- (A) Factors affecting on the protein-metal crystallizations
- (B) Factors affecting on metal toxicity
- (C) Factors affecting on stability of metalloproteins
- (D) The role of metal ions in enzymatic catalysis
- (F) Properties of metals to be used as radiodiagnostic tracer

و الجدودة (الجدودة المحلفة المحلفة المحلفة المحلفة المحلفة المحلفة المحلفة المحلفة المحلفة (المحلفة المحلفة ا

Tanta University	Final Exam Che	emistry of Petroleum	
Faculty of Science	y of Science Stry Department Level Four Course Code: CH 4145	Course Code: CH 4145	
Chemistry Department		Total Assessment Marks: 50	
Double Major	Time allowed : 2 Hours	Date: 30/12/2017	
Answer the following	questions:		<u> </u>

1) Illustrate the inorganic theory which discusses the genesis of petroleum.

(10Marks)

- 2) Write short notes on the following: (10 Marks)
- i- Pour point.
- ii- sulfur compounds in petroleum.
- iii- Kerosene zone in petroleum.
- iv- Naphthenes or Cycloparaffins.
- v- Aniline point.
- 3) Define each of the following with examples: (20 Marks)
- i- Catalytic Cracking.
- ii- Alkylation.
- iii- Classification of Crude Oils

- iv-Petrochemical from H₂S.
 - 4) Show with equations how the following compounds could be prepared from petroleum and show its uses. (10 Marks)
- 1- Carbon black.
- 2- Adipic acid.
- 3-Teflon.

4- Ethylene glycol.

5- Hydrazine hydrate.

6- Acrylic acid.

7- Methyl methylacrylate.

- 8-Ammonium nitrate fertilizer
- 9-Phenolic Resins.

10- Nylon 6, 6.

 Good	Luck,,,,,,	,,,

Prof. Abd-elbaset shokr

Assistant.Prof. Seham Abd-elatif

			`
	a .		Г
	DΑ		ŀ
	4.5		1
	30 T	8	1
122	-		
•	_ *	5 A -	7
- 11		<u> </u>	1
178			
4		14.	
,		1.0	1
		10	
- 1	190	8.0	1
			1

TANTA UNIVERSITY FACULTY OF SCIENCE (L.)

CHEMISTRY DEPARTMENT

FINAL EXAM FOR SENIOR STUDENTS (DOUBLE MAJORS)

COURSE TITLE: INDUSTRIAL CHEMISTRY (CH4155)

TIME ALLOWED: 2 HOURS

DATE: JANUARY 01, 2018

TERM: FIRST

TOTAL ASSESSMENT MARKS: 50

Question 1:

1) Compare between each pair of the followings:

(9 Marks)

- a) Properties of diamond and graphite.
- b) Commodity and fine chemicals (with examples).
- c) SMR and POX.
- 2) Show with diagram only the extraction of sulfur.

(2 Marks)

3) Write the uses of hypochlorous acid.

(2 Marks)

Question 2:

1) Show only by equations:

(8 Marks)

- a) Synthesis of diamond.
- b) Hydrogenation and oxidation steps for the manufacture of hydrogen peroxide.
- c) Ostwald process.
- d) Urea process for the synthesis of hydrazine.
- 2) Give reasons for the followings:

(4 Marks)

- a) Addition of carbon and silica during the manufacture of white phosphorous.
- b) Addition of superheated water during the extraction of sulfur.

Question 3:

1) Give a brief account on the most common types of dyes with chemical structures of each kind. (4 Marks)

2) Compare in a short notes between:

(4 Marks)

a) Edible and inedible fats

b) Saponification value and iodine number

Please turn over



Examiners: Prof. Ahmed Elbarbary Dr. Mohamed Sadek

Prof. Nadia Elwakeel Dr. Wael A. Amer

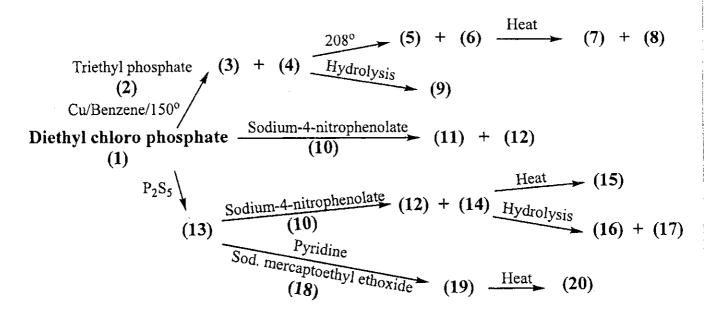


1	Tanta University, Faculty of Science, Chemistry Department					
0 2 2	Examination for Fourth Level (Credit Hours) Students					
	Course Title	Chemistry of Pesticides	Course Code: CH4119			
Date: 3 January 2018 Total Assessment Marks: 50 Time Allowed: 2 h						

I) Discuss each of the followings (10 Marks):

- a) Metabolism of carbofuran.
- b) Merits and demerits of organophosphorous compounds as pesticides.

II) Complete the following scheme and name all the products (10 Marks):



III) Write one method to prepare the following pesticides (10 Marks):

a) Nornicotin

b) Ethylchlorobenzilate

c) Chlordan

- d) Bis-(p-chlorophenoxy) methane
- e) Sodium fluosilicate

IV) Complete the following chemical equations and name all the products (10 Marks):

- a) 4-Chlorobenzaldehyde + Nitroethane A --Chlorobenzene- B
- b) Trichloro acetaldehyde + Chlorobenzene --c. H₂SO₄→ C --Drastic nitration→ I
- c) DDT —alc.KOH→ E —Hydrolysis→ F
- d) DDT --Zn dust/EtOH \rightarrow **G** --alc.KOH/300° \rightarrow **H**
- e) Carbaryl --epoxidation→ I --hydrolysis→ J

V) Carryout the following conversions (10 Marks):

a) DDT to 1,1-bis(4-chlorophenyl)ethene

- b) Acetylene to aldrin
- c) Mercuric bromide to alkyl mercuric hydroxide
- d) Ethanol to methoxychlor
- e) Carbon disulfide to ferric dialkyl dithiocarbamate

Dr. Mohamed Azaam

Dr. Atif El-Gharably





TANTA UNIVERSITY- FACULTY OF SCIENCE- DEPARTMENT OF ZOOLOGY

EXAMINATION for fourth year student's chemistry/zoology

	EXAMINERS: P	ROF. M. ABDELMONE	IM HEGAZI AND PROF. MOHAMED BASYO	······································	
	COURSE TITLE:		PHYSIOLOGY 2	COURSE CODE: ZO)4
DATE:	JANUAR, 2018	TERM: FIRST	TOTAL ASSESSMENT: 100 MARKS	TIME ALLOWED: 2 H	IR

Part one 50 marks

Part 1: (50 points)

- 1. Give an account on hemoglobin functions with special reference to:
 - a. Oxygen and carbon dioxide transport in blood
 - b. Buffering action of hemoglobin and chloride shift

	50 marks		- h					
Quest	ion 1 (15 Marks)	1. Identify the	1. Identify the followings and give one example in each case					
		a. Leukocytosis and leucopenia						
		b. T and 1	b. T and R forms of Hb					
		c. Garnule	ocytosis ar	nd agranulocy	tosis			
		d. Lympho	ocytosis ar	nd lymphoper	iia			
		Neutrophilia and ne	utropenia					
	ion 2: (25 Marks)	Please select the cor	rrect answ	er in the follo	wings cl	hoices		
1	Which of the following	ing cell type has the hig	ghest perce	entage in W.B	.Cs?			
	A). Basophil	B) Monoc	vtes	(C) Neutror	shile	D) homohoordes		
3.	Which of the follow	ing is not lymphocyte o B). CD4 T-cells	ells			******		
	A). Mast cells	B). CD4 T-cells	C). T-r	eg cells	D).	CD8- Tcells		
4						*********		
	A). Ted cen	b). white cell	(C), plat	elet	D).	NK cells		
5.	5. Which of the following are likely to increase in quantities when the				is under	attack from bacteria?		
	A). leucocytes	B) erythrocytes	(C) plat	elete	Di	-lagna		
6.	The life span of lym	phocytes is						
	A). one day	phocytes is	C). one	month	D).	one vear		
7.	Which type of white	blood cell contains nu	cleus with	three lobes				
	A). Neutrophil	B). Basophil	(C). Mo	nocvte	D	Lymphocyte		
8.	Hb binds O2 i	s called						
	I A J. OXVHD	H) deoxyHh	(C) cor	hovy Uh	n)	O- 1 ' TTI		
9.	B-cells are differenti	ated in			127	Our Octamino 110		
,	A). Bone marrow	B). Spleen	C). Th	vmus	10)	the liver		
10.		orentiated III						
	_1. 7	2 /. 00110 IIIuI1011	1 0 1. L.	/ C1	1 1 2 3	snleen		
11.	CTL, terms refer to	D) CD9			12).	Spicoli .		
	Δf . CD^4	ן ש). עט	Cl. B-0	cell	1 13)	NK cells		
12.	Helper T-cells is	************			1 27).	THE OUIS		
	A).CD8 cells	B). Treg cells	C), CE	04 cells	D	R-cells		
13.	I MATCH MICHOCARCS ICI	i uic blood and enter in	ie rissile ci	ianged into				
	A). Macrophage	B). Neutrophils	C). Ba	sophils	D)	T-cells		
14.	List two causes of m	onocytosis?			12).	1 00113		



TANTA UNIVERSITY FACULTY OF SCIENCE CHEMISTRY DEPARTMENT

FINAL EXAM FOR CRDIT HOUR STUDENTS

COURSE LASER CHEMISTRY (CH4113- DOUBLE)
TITLE:

TIME ALLOWED: 120 MINS

DATE: 11-1-2018

TERM: FIRST

TOTAL ASSESSMENT MARKS: 50 120 MINS 1-3

Answer each of the following questions:

- 1- Complete each of the following: (2 marks for each).
 - (i) Laser characteristics:,,,
 - (ii) Principle components of laser:,,
 - (iii)Intensity of coherent light I = and for incoherent light I =
 - (iv) The advantages of proton transfer dye laser are:
 - (v) Pulsed lasers are used in and the main requirement for laser generation are
- 2- Give the reason for each of the following: (2 Marks for each).
 - (i) Keto compounds are good triplet sensitizers
 - (ii) HClO₄ is used to acidify the laser media instead of HCl
 - (iii) Emission spectrum of most compound occurs from S₁ state
 - (iv) Large Stokes shift is useful for laser generation from dyes
 - (v) Electronic absorption spectrum of benzophenone dispersed in polymethylmethacrylate extends from 320 to 750 nm
- 3- (a)-Suggest the excitation source and output laser emission from the following: (4 Marks).
 - (i) He Ne laser
- (ii) chemical lasers
- (iii) CO2 laser
- (iv) dye lasers
- (b)- Explain what happens when a photon interacts with an atom (6 Marks)
- 4- Define or explain each of the following: (2.5 Marks for each).
 - (i) Advantages of excitation spectoscopy
 - (ii) Photodynamic therapy by singlet oxygen
 - (iii) Detection of Salmonella by MUCAP
 - (iv) Removal of H₂S by photons
- 5- Only draw and label each of the following: (2 Marks for each)
 - (i) Jablonski diagram for photophysics of molecular oxygen
 - (ii) Energy levels in excimer lasers
 - (iii) Energy levels in salicylamide as a proton transfer dve lasers
 - (iv) Energy diagram for flash photolysis operation
 - (v) Energy diagram of some possible processes in thermal lensing in detection of singlet oxygen

أ.د. الزيني عبيد

أ.د. سامي الدالي
وحـدة شمان الجودة @
حكيمة العلوم - جامعة طنطا
QUALITY ASSURANCE UNIT
FACULTY OF SCIENCE - TU



TANTA UNIVERSTIY - FACULTY OF SCIENCE - MATHEMATICS DEPARTMENT

EXAMINATION FOR 4TH LEVEL (CHM-ZOOLOGY/ENTOMOLGY)

COURSE TITLE: Biostatistics (ST4107)

DATE: 14 January 2018

TERM: First

TOTAL ASSESSMENT MARKS: 50

TIME ALLOWED: 2 Hours

Answer the following questions:

Q1: A national company owns a chain of laboratories at which routine chemical tests are carried out. A junior analyst is employed at one of these laboratories. In order to check his accuracy the senior analyst retested 6 samples chosen at random from amongst those analyzed by this junior. The results were as follows:



Sample	1	2	3	4	5	6	
Senior	8.51	14.70	3.59	7.63	5.55	4.57	
Junior	8.62	13.97	4.07	7.97	5.83	4.62	

Test at 5% level of significance, whether there is a difference between the sets of results. (12 Mark)

Q2: A researcher believes that in recent years women have been getting taller. She knows that from many years ago the average height of young adult women living in her city was 63 inches. She randomly samples 8 young adult women currently residing in her city and measures their heights. The following data are obtained:

- 1								
	64	66	68	65	60	67	65	63

Do you think that the researcher is correct in her believe? Use $\alpha = 0.05$.

(12 Mark)

Q3: Consider the contingency table below of observed values in a sample of 50 individual. Test at $\alpha = 0.05$, is there a dependency between the gender and blood type (13 Mark)

	A	В	AB	0
Male	10	10	15	5
Female	15	5	5	35

Q4: Three detergents Tide, Oxi, Persil in the process of cleaning action on the basis of cleaning degree are compared and the following data are collected: Use $\alpha = 0.05$,

r						
Tide	77	81	71	76	80	
Oxi	72	58	74	66	70	
Persil	76	85	82	80	77	



Are the differences among the means of the three detergents significant?

(13 Mark)

You may use:

$$F_{0.05,2,9} = 4.26$$
, $F_{0.05,7,11} = 3.01$, $F_{0.025,7,11} = 3.76$, $F_{0.025,12,8} = 4.20$, $t_{0.025,5} = 2.571$, $t_{0.05,7} = 1.895$, $\chi^2_{(0.05,2)} = 5.991$, $\chi^2_{(0.05,3)} = 7.81$, $F_{0.05,2,12} = 3.89$, $t_{0.05,5} = 2.015$

WITH ALL MY BEST WISHES

DR.WAFAA ANWAR

EXAMINERS DR. WAFAA ANWAR ABD EL-LATIF PROF. MOHAMED MOHAMED EZZAT