



TANTA UNIVERSITY
FACULTY OF SCIENCE
DEPARTMENT OF ZOOLOGY

EXAMINATION FOR LEVEL FOUR SPECIAL ZOOLOGY STUDENTS

COURSE TITLE:

HISTOCHEMISTRY

150

COURSE CODE: 4141

DATE: DECEMBER, 2017

TERM: FIRST

TOTAL ASSESSMENT MARKS: 100

TIME ALLOWED: 2 Hours

I-Answer the following questions: (75 marks)

A-Write short account in three only: (20 marks)

1. Melanin formation and different factors affecting the intensity of its production.
2. Destruction of the hemoglobin molecules.
3. The triglycerides and their significances in body tissues.
4. The cholesterol esters and their significances in body tissues.
5. Periodic Acid Schiff's method for carbohydrates demonstration.

B- Complete the following: (30 marks)

1. There are many factors affect tissues glycogen content as
2. Sphingolipids comprise that are similar in and differ in
3. Lecithins has important role in..... while bile acids play a role in
4. Lipofuscin pigments are mostly occur in cells. They are often associated with..... and seen more frequently in..... age, Therefore , they are called wear and tear pigments.
5. Globin part of the hemoglobin molecules help in
6. Many of the tissue components have strong ability to reduce silver nitrate solution such as
7. Neutral fats and waxes considered as lipids, they differ from each other's in
8. Phospholipids include some of them are insoluble in acetone such as and.....
9. Specificity of staining methods for carbohydrates detection is improved byand... Give examples
10. Hyaluronic acid is and characterized by It is widely found in and acts as.....
11. Hemosiderin is formed and deposited within the phagocytes as golden-brown granules, it is detected by method which depends on.....
12. stain has a strong affinity for acid mucopolysaccharides and gives color. The method depends on and, while is a good method to differentiate between acid and neutral mucopolysaccharides.
13. Ascorbic acid play an important role in while heparin consider as.....



وحدة ضمان الجودة
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FACULTY OF SCIENCE - TU



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FACULTY OF SCIENCE - Tanta

نظرة عامة



I- Answer the following points:

A- Briefly explain three only (15marks)

1. The differences between acute and chronic inflammation.
2. Cytokines
3. The different morphological patterns of inflammation.
4. Extravasation of leukocytes

B- Complete the following: (20marks)

1. are highly specialized in removal of dead cells and cellular debris.
2. Process of acute inflammation is initiated by the following immune cells....., these cells undergo activation and release.....which responsible for the clinical signs as.....,
3. Purpose of inflammation is to
4. is dynamic response of vascularized tissues to injury.
5. increased passage of protein-rich fluid through vessel wall into the interstitial tissue.
6. marks the invaders as target for phagocytosis. Give example.
7.causes arteriole dilation and increased venous permeability and it is released from,..... Cells.
8.a group of lipids that can cause vasodilation, fever and pain. They produced from..... cells.
9. Macrophages are classified according to their location in the body into.....,.....,
10.is the movement of an organism in response to chemical stimulus.


C- Choose the correct answer(s): (15 marks)

1-Interleukin-1 (IL-1) is :

- a) producing by macrophages.
- b) cytokines.
- c) Serving to activate T- lymphocytes
- d) causing vasodilation.

2-Nitric Oxide is :

- a) cell- derived mediators
- b) plasma- derived mediators
- c) reducing platelets aggregation.
- d) aiding in leukocyte recruitment

	TANTA UNIVERSITY FACULTY OF SCIENCE CHEMISTRY DEPARTMENT		
	FINAL EXAM FOR SENIOR STUDENTS (CHEMISTRY AND ZOOLOGY SECTIONS)		
	COURSE TITLE:	WATER TREATMENT (CH4127)	TIME ALLOWED:
DATE: JANUARY 01, 2018	TERM: FIRST	TOTAL ASSESSMENT MARKS: 50	2 HOURS

Question 1: Discuss briefly:

(20 Marks)

- 1) Comparison between BOD and COD.
- 2) Sludge digesters and drying beds.
- 3) Trickling filter and rotating biological reactors (composition and theory of action).
- 4) Lime-soda and ion exchange processes for water softening.

Question 2: Give the reason(s) for the following statements:

(10 Marks)

- 1) pH influences the degree of ionization and toxicity of hydrogen sulfide in surface water.
- 2) Blackening of soils, wastewater and sludge in locations with standing water.
- 3) Aeration and the addition of lime during municipal water treatment.
- 4) The impurities in water are sometimes beneficial.
- 5) Some water disinfectants cannot be shipped but are generated on-site.

Question 3: Complete the following sentences:


(20 Marks)

- 1) Water alkalinity is usually expressed as unit.
- 2) Water with high content of suspended solids may harm aquatic life by
or
- 3) Grit in wastewater consists of materials such as which do not biodegrade well.
- 4) The water sampling device should be made from
- 5) The suitable container for water samples, containing trace organics, is
- 6) Nitrogen fixation is defined as and it can be done via
or
- 7) During the freezing of liquid water samples, you should provide sufficient air gaps in containers so as to
- 8) Phosphorus is a minor element in natural water because
- 9) The two important sources of H₂S in the environment are and

Please turn over



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	Tanta University		
	Faculty of Science, Zoology Department		
Final Exam. For Seniors (4th year) students of Special Zoology			
Course title:	Ecological Pollution		Course code: ZO 4115
Date: 6 / 1 / 2018	Semester: First	Total assessment Marks: 100	Time allowed: 2 hours

Answer the following questions, please:

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Question (I):

(42 marks, 7 marks each)

- 1) Write on major air pollutants and 3 different strategies for control of air pollution.
- 2) Write on fate of pesticides in the environment.
- 3) Write short notes on ozone depletion and its effects.
- 4) Mention sources, effects and prevention of radioactive pollution.
- 5) Distinguish among primary, secondary and tertiary treatments for wastewater?
- 6) List and discuss 8 major categories of water pollutants and give an example for each category.

Question (II): Choose the correct answer.

(30 marks, 2 marks each)

1- Clean Water Act

- A. pollution that comes from a distinct location
- B. Small waste water system used by a single home or business
- C. It sets maximum permissible amounts of water pollutants that can be discharged into Water ways Aim: to make surface waters swimmable and fishable
- D. a naturally occurring compound that can dissolve in groundwater.

2- . Everyone is affected by the quality of our air. Which people in particular are likely to become sick from air pollution

- A. elderly people
- B. asthmatics
- C. people with respiratory diseases
- D. all of the above

3- Coliform bacteria in the water is an indication of the presence off

- A. Radioactive wastes.
- B. Excess Fertilizer.
- C. Decaying animals and plants.
- D. Human feces .

4- Which two pollutants have to be present in order to form ozone?

- A. oxygen and hydrogen
- B. Oxides of nitrogen and hydrocarbons
- C. carbon dioxide and oxygen
- D. all of the above

5- What do you call rain that is contaminated by pollution?

- A. pure rain
- B. acid rain
- C. pollution
- D. run off

6- Which of the following are impacts from stormwater pollution?

- A. Cloudy water
- B. Algae blooms
- C. Fish kills
- D. All of the above

7- What is summer smog also know as.

- A. photochemical smog
- B. lithohistorical smog
- C. particulate smog

8- Secondary sewage treatment can best be described as a process.

- A. Chemical
- B. geological.
- C. biological.
- D. mechanical

9- Which of the following organisms can tolerate low levels of dissolved oxygen in water?


- A. black fly larvae and may fly larvae
- B. sludge worms and caddis fly larvae
- C. black fly larvae and sludge worms
- D. caddis fly and may fly larvae

10- Mechanical cleanup methods of oil:

- A. The oil from an oil tanker.
- B. Coagulants and dispersing agents
- B. Skimmers and blotters.
- D. Addition of special compound.

11- What other kinds of water pollution?

- A. Nuclear fallout
- B. Eutrophication, Thermal pollution, Surface runoff
- C. Chlorofluorocarbon, ozone depletion, smog
- D. Actinides in the environment

	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF ZOOLOGY		
	EXAMINATION FOR SENIORS (FOURTH YEAR) STUDENTS OF SPECIAL ZOOLOGY		
COURSE TITLE:	EPIDEMIOLOGY AND CLINICAL PARASITOLOGY	COURSE CODE: ZO 4105	
DATE:	JANUR, 2018	TERM: FIRST	TOTAL ASSESSMENT MARKS:100 TIME ALLOWED: 2 HOURS


PLEASE NOTE THAT THE EXAM IS IN TWO PAGES

ANSWER THE FOLLOWING QUESTIONS

FIRST QUESTION: EPIDEMIOLOGY..... (50 MARKS)

- I. Select the correct answer then rewrite it in your paper(10 Marks; 2 Marks each)
- Both incidence and prevalence can be represented by the formula $(x/y) \times 10n$ for a specified time period. The difference between incidence and prevalence is in.....
 - x
 - 10n
 - y
 - The time period of reference
 - A study reports that regular exercisers have a relative risk of 0.20 compared to non-regular exercisers in the prevention of strokes. The interpretation of this relative risk is.....
 - Regular exercisers are 20% less likely to develop a stroke vs. non-regular exercisers.
 - Regular exercisers have 80% of the risk of developing a stroke vs. nonregular exercisers.
 - Non-regular exercisers are 80% less likely to develop a stroke vs. regular exercisers.
 - Non-regular exercisers are 20% more likely to develop a stroke vs. regular exercisers.
 - Case fatality rate.....
 - It is possible for a disease to have a high case fatality rate but a low mortality rate.
 - A disease may have low case fatality rate if patients die quickly after getting the disease.
 - It is a measurement of disease at a particular point in time.
 - It is a measurement of the burden of illness.
 - 87 persons in a small community (population 460) attended a social meat picnic. Within 3 days, 39 of the participants have salmonellosis *تسمم*. The attack rate among participants was.....
 - 0.44%
 - 18.9%
 - 44.8%
 - cannot be calculated from the information given
 - The fraction: women in the U.S. who died from heart disease in 1991 is a.....
women in the U.S. who died in 1991
 - Ratio
 - Proportion
 - Attack rate
 - Mortality rate
- II. Discuss and classify two different types of transmission modes of diseases.....(10 Marks)
- III. Define the following (in a table)..... (10 Marks)
- Pandemic- Case- Chain of infection- Point prevalence- Proportionate mortality-Antigenic power- Relapsing carriers- Droplet nuclei transmission- Proportion - Attributable risk.
- IV. Read the following health problems and answer the provided questions.....(20 Marks)
- Men camp with total population of 700, 300 of them used to take public transportation to go work, while the rest go by bikes. At the beginning of 2010, 6 case of Tuberculosis(TB) *مرض السل* has reported within public transportation community with 2 cases only reported in bikes – used community. Two weeks later, 70 new cases with the same clinical signs have appeared in public transportation and 24 in bikes-used communities. At the end of the year, 13 case of TB were died in this camp. You should know that TB spreads from person-to-person through the air by coughing or sneezing
- Calculate the followings:**
- Risks of having Tuberculosis within different communities in this camp.
 - The burden of Tuberculosis with two morbidity attack rates .
 - One mortality rate to detect the severity of TB during the year 2010

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	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF CHEMISTRY			
	EXAMINATION FOR (SENIORS) STUDENTS OF SPECIAL BOTANY AND ZOOLOGY SECTIONS			
COURSE TITLE:	BIOCHEMISTRY 1		COURSE CODE: 4173 <i>ch</i>	
DATE: 15.1.18	JANUARY, 2017	FIRST TERM EXAM	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2 HOURS

Answer the following questions:

I- A-Explain each of the following:- (40 marks)

- i-pyruvate dehydrogenase catalyzes oxidative decarboxylation of pyruvate*
- ii-- Isomerases are a general class of enzymes that convert a molecule from one isomer to another..*
- iii-Flavin nucleotides involved in redox reactions of C-C Bonds.*
- iv-Transamination mechanism*
- v-Reaction sequence for the biosynthesis of pantothenic acid*

II- Give an account of the following by biochemical equations: (40 marks)

- i Glycogenesis is the process of glycogen synthesis, in which glucose molecules are added to chains of glycogen for storage.*
- ii-Some enzymes are relatively specific*
- iii-FMN and FAD synthesis*
- iv- Biosynthesis of NAD+ starts with nicotinic acid and PRP*
- v-Biotine acts as an enzyme-bound carrier of CO2*

III- Choose the correct answer . Explain by equation (20 marks)

i-TPP is synthesized by direct transfer of the pyrophosphate group from
a-phosphoric acid b-pyrophosphate c- ATP

ii-Trypsin and chymotrypsin exhibit :-
a- absolute specificity b- relative specificity c- stereo specificity

iii-The first step in the glycolytic pathway
a- produces ATP b-uses ADP as a substrate c-produces glucose -6 -phosphate

iv- Lipolysis is the breakdown of lipids and involves hydrolysis of triglycerides into
a-Diacyl glycerol and free fatty acid b- mono acylglycerol and free fatty acids c- glycerol and free fatty acids

PROF.DR. AHMED SAAFAN



Scientific writing and presentation

Level: 4, Special Zoology, First Semester

Course Code: ZO4107 Date: December 27, 2017 Time allowed: 2 hours Total mark: 100

Examiners: Prof. Mohamed Mona, Prof. Dr. Mohamed Basiouny and Dr. Mohamed Nassef

Q1: Suggest a title and key words for the following research article abstract (15 marks)

In this study we aimed to determine the anti-tumor efficacy of co-treatment of adoptively transferred T cells with bone marrow either harvested from naive mice or G-CSF activated after treatment with the anti-cancer drug cyclophosphamide (CTX) as a source enriched in stem cells. CTX-treated Swiss Albino (CD-1) mice were injected with 2×10^5 Ehrlich ascetic carcinoma (EAC) cell line and then adoptively transferred with *in vitro* co-activated T cells with or without bone marrow one day post CTX treatment. All mice were vaccinated with tumor lysate and Hiltonol®. The results showed that co-transfer of activated T cells with bone marrow provided the highest antitumor effect and induced marked increase in numbers of splenocytes, leucocytes and bone marrow cells. Interestingly, T cells derived from EAC tumor-bearing host induced higher effects than those from normal mice. In sum, our data suggest that combination of CTX and activated transferred T cells with bone marrow induces proliferation and expansion of immune cells, which are functional and can be exploited *in vivo* to foster more effective antitumor adoptive immunotherapy strategies.

Q2: Write a reference for the following research article (10 marks)

JOURNAL OF IMMUNOTOXICOLOGY, 2016
VOL. 13, NO. 6, 784-792
<http://dx.doi.org/10.1080/1547691X.2016.1194917>

Taylor & Francis
Taylor & Francis Group

RESEARCH ARTICLE

Effect of administration timing of postchemotherapy granulocyte colony-stimulating factor on host-immune cell recovery and CD8⁺ T-cell response

Mohamed Labib Salem^{a,b}, Mohamed Nassef^a, Soha G. R. Abdel Salam^a, Abdelaziz Zidan^b, Mohamed H. Mahmoud^{c,d}, Gamal Badr^e, Mark Rubinstein^f and David Cole^f

^aImmunology and Biotechnology Division, Zoology Department, Tanta University, Tanta, Egypt; ^bCenter of Excellence in Cancer Research, Tanta University, Tanta, Egypt; ^cDeanship of Scientific Research, King Saud University, Riyadh, Saudi Arabia; ^dFood Science and Nutrition Department, National Research Center, Dokki, Cairo, Egypt; ^eLaboratory of Immunology and Molecular Biology, Zoology Department, Faculty of Science, Assiut University, Assiut, Egypt; ^fSurgery Department and Hollings Cancer Center, Medical University of South Carolina, Charleston, SC, USA

Q3: Choose the best answer(s) (20 marks)

- For better readability, it is preferable that bullet points are:
A) Short phrases or partial sentences
B) Page of text
C) Complete paragraphs
D) Long sentences
- Which of the following is an example of a common academic report heading?
A) Word count
B) Methods and discussion
C) Results
D) Answers A and C
- When using external sources content in presentation materials, it is necessary to include:
A) Acknowledgments
B) Copyright disclaimer
C) Citations and references
D) Trademark symbol
- Which of the following is NOT a rule when writing a hypothesis?
A) It is a prediction.
B) It is testable
C) It is an if/then statement
D) It should restate the question



(C)



TANTA UNIVERSITY- FACULTY OF SCIENCE- DEPARTMENT OF ZOOLOGY
EXAMINATION for fourth year students Special Zoology

EXAMINERS: PROF. M. ABDELMONEIM HEGAZI, PROF. MOHAMED BASYONY AND PROF. SOMIA ZAKI

COURSE TITLE: PHYSIOLOGY 2

COURSE CODE: ZG4113

DATE: JANUAR, 2018

TERM: FIRST

TOTAL ASSESSMENT: 150 MARKS

TIME ALLOWED: 2 HRS

Part one (75 marks)

Part 1: (75 points)

1. Give an account on: (50 points)

- a. Oxygen and carbon dioxide transport in blood
- b. Oxygen dissociation curve
- c. Buffering action of hemoglobin and chloride shift

2. Complete the following: (25 points)

- a. Glomerular filtration rate is _____.
- b. Bulk flow is _____ which take place by _____ and _____.
- c. ADH and aldosterone hormones are _____.
- d. from the functions of kidney _____, _____, _____ and _____.
- e. e-The functional unite of kidney is _____.
- f. Illustrate the structure of kidney _____

Part two (75 marks)

Question one (30 Marks)

Write a short notes on the following:

- 1. Monocyte characteristics and functions
- 2. Lymphocyte characteristics and functions
- 3. T and R forms of Hb
- 4. Fibrinolysis
- 5. Definition of: cardiac cycle, Stroke volume and cardiac output
- 6. Heart valves action during cardiac cycle

Question two (30 Mark)

Please select the correct answer in the followings

1.	An RBC with decreased Hb content is called	A). hypochromic	B). hyperchromic	C). anisocyte	D). poikilocyte
2.	Thrombocytes is another name for a.....	A). red cell	B). white cell	C). platelet	D). NK cells
3.	Which of the following blood components provide help in blood clotting.....	A). white cells	B). red cells	C). Heparin	D). platelets
4.	The relatively clear liquid medium which carries the other cells of blood is called.....	A). lipid	B). antibody	C). plasma	D). Serum
5.	Which of the following are to increase in quantities when the body is under virus attack				

30.	vWF. Is essential for stablization of:
	A). I V B). V C). VIII D). XII
Question three (15 marks)	
Mark by true or false and correct the false ones.	
1.	An hemoglobin molecule contains four heme structures.
2.	Hemoglobin A consists of (α_2, β_2) and hemoglobin A2 (α_2, δ_2)
3.	Precursor cells differentiate into Progenitor cells during hemopoiesis.
4.	Reticulocytes as well as erythrocytes are biconcave discs.
5.	Oxyhemoglobin transport O ₂ to tissue, carboxyhemoglobin transport CO ₂ from tissue to lung.
6.	Ferrin is the only protein carry and transport ferrous in blood stream.
7.	CO ₂ carried by carboxyhemoglobin binds to the Ferrous atom.
8.	Macrocytic RBCs is a sign of anemia.
9.	Fibrinogen is essential for platelets adhering.
10.	Active platelets are disc shaped, inactive platelets are spiny shaped.
11.	Thrombosis is the clotting in a broken blood vessel.
12.	Fibrin is a soluble protein of plasma secreted by liver.
13.	Magnification power of procoagulants factors is due to +ve feedback of fibrinogen effect.
14.	Vitamin K deficiency may cause Thrombosis.
15.	Splenectomy induce thrombocytosis while splenomegaly cause thrombocytopenia.