	Tanta University- Faculty Of Science Department of Zoology			
	Examination Paper for freshmen (First level) students of Biology			
	Course Title:	General Zoology (2) (حيوان عام ٢)		Course Code: ZO 1202
Date:	June, 2018	Term: Second	Marks: 150	Time Allowed: 2 Hours

**First question ( 10 marks)**

- A) Mention the National Parks, then explain only one of them in full details  
B) What re the three levels of biodiversity

**Second question ( 40 marks)**

A- Write on the following points: (10 marks, 5 marks for each one)

- 1- Five characteristics of Phylum Cnidaria.
- 2 - Diversity (Classification) of Phylum Porifera with examples.

B- Make fully labeled drawings of: (10 marks, 5 marks for each one)

- 1-Structure of a choanocyte ( collar cell ) .
- 2- Structure of Polyp and medusa forms.

C- Fill in the blank : (10 marks, 2 marks for each one).

- 1- Types of Water canal system of Sponges are:  
\_\_\_\_\_.
- 2- Killer cnidarians to humans include \_\_\_\_\_.
- 3- Two main types of cells are found in the mesoglea of Sponges namely  
\_\_\_\_\_.
- 4- Phylum Cnidaria has two body layers namely\_\_\_\_\_.
- 5- Sponge larvae are \_\_\_\_\_.

D- Multiple choices (MCQ) : Choose the correct answer. (10 marks, 2 marks for each one).

1- Reversal of cell layers, a phenomenon found in:

- (     ) a. Cnidaria            b. Porifera            c. Annelida            d. Nematoda

2- Which of the following is an Egyptian example of Scyphozoa?

- (     ) a. *Hydra* sp. b. *Obelia* sp. c. *Aurelia aurita* d. *Anemonia sulcata*

3- By which method do sponges reproduce asexually?

- (     ) a. ova    b. sperm    c. gemmules    d.larvae

4- Which of the following is the correct type of symmetry in Phylum Cnidaria?

(     )    a. radial   b. bilateral   c. asymmetrical   d. spherical

5- Which of the following is Not a character of Phylum Porifera?

(     )    a. ostia   b. spongocoel   c. oscula    d. nephridia

Third question ( 50 marks)

ANSWER THE FOLLOWING QUESTIONS:

I. Only by a diagram, illustrate the excretory system of flatworms. (15 Marks)

II. Briefly define how the following word pairs are similar and how they are different. (15 Marks, 3 Each)

- a) Conjugation and autogamy of Protozoa
- b) *Naegleria* sp. and *Acanthamoeba* sp.
- c) Nematode and platyhelminthes musculature.
- d) Amphids and phasmids of nematodes.
- e) Opisthaptor of monogeneans and a ventral adhesive disk of *Aspidogastrea*

III. Write the name of an appropriate species (10 Marks, 1 Each)

- 1) Has mature oocyst contains two sporocysts each containing four sporozoites.
- 2) Parasitic and has micro and macronucleus.
- 3) Has numerous flagella in oblique rows cover entire body surface and numerous one type of nuclei
- 4) Adults have scolex provided with only four powerful suckers
- 5) Adults inhabit the bile ducts of sheep, goat, cattle and Man
- 6) Adults parasitize salmon fish and attach to the fish by a large haptor which has sixteen sharp hooks located around its margin
- 7) Adults have light-sensitive eyespots, gastrovascular cavity with a protractible pharynx and centralized nerve nets
- 8) Has locomotive protoplasmic flow without discrete pseudopodia.
- 9) Cause elongation and irregular or fimbriation to the infected Cells
- 10) The mature adult is pear shape and has three suckers: oral sucker; ventral sucker and genital

IV. Chose the correct answer and rewrite it in your paper (10 Marks, 1 Each)

1. The protistan that is able to combine autotrophic and heterotrophic nutritional modes is.....

- a) *Euglena* sp.
- b) *Plasmodium* sp.
- c) *Amoeba* sp.
- d) *Giardia* sp.

2. The pellicle is a structure which is.....

- a) Sensitive to light
- b) Used for locomotion
- c) Used to store food
- d) Used to digest food particles

3. The attachment organ located at the anterior end of a monogenetic trematode (class Monogenea) is termed a (an).....
  - a) Opisthaptor
  - b) Acetabulum
  - c) Prohaptor
  - d) Rostellum
4. Cotylocidium, onchomiracidia, miracidium and cercaria are.....
  - a) Part of the trematode life-cycle
  - b) Part of the cestode life-cycle
  - c) Part of nematode life-cycle
  - d) None of the above
5. Under difficult environmental conditions, protozoa transform into a protective body known as a.....
  - a) Endospore
  - b) Cyst
  - c) Pellicle
  - d) Fruiting body
6. The phylum consists of bilaterally symmetrical animals with an incomplete digestive tract and includes the tapeworms is.....
  - a) Trematoda
  - b) Platyhelminthes
  - c) Cestoda
  - d) Nematoda
7. The structure Which is not part of the female trematode reproductive system is.....
  - a) Oviduct
  - b) Vitellaria
  - c) Uterus
  - d) Seminal vesicle
8. Eggs of..... are flattened on one side
  - a) *Schistosoma haematobium*
  - b) *Enterobius vermicularis*
  - c) *Taenia saginata*
  - d) *Ancylostoma duodenale*
9. The type of skeleton characteristic of phylum Nematoda is.....
  - a) Hydrostatic endoskeleton
  - b) Exoskeleton
  - c) Cartilage
  - d) Elastic skeleton
10. The unique organelle found within some protozoa but not in higher animal cells is.....
  - a) Mitochondrion
  - b) Golgi apparatus
  - c) Contractile vacuole
  - d) Endoplasmic reticulum



**Fourth question (20 marks)**

**Give the scientific term of the following**

- 1- Body has numerous chaeta
- 2- Ability the prawn to break one its appendages
- 3- A group of animal in which the blastula opening gives anus first in the adult
- 4- A Phenomenon in which the female can reproduce without fertilization and produce young in favorable condition

**Fifth question (10 marks)**

**Mention three of economic importance of Plum Mollusca and phylum Annelida.**

**Sixth question (20 marks)**

**Complete the sentences from Group (A) with the suitable words from Group (B).**

Group ( A )	Group ( B )
1- The ventral solid nerve cord	a- is reduced to the coccyx in humans.
2- Mammals which lay eggs is called	b- Ascidia
3- Fertilization is internal in the	c- sharp horny teeth
4- The example of tunicates is	d- Eutheria
5- The exoskeleton of chondrichthyes is	e- Is not a character of chordates
6- The post-anal tail	f- Urochordata and Cephalochordata
7- Protochordata include	g- sharks
8- In tetrapods the pharyngeal gill slits	h- Is used in feeding mechanism
9- The elephant belong to subclass	i- placoid scales
10- The suctorial buccal funnel of petromyzon is lined by	j- prototheria ( monotremes )
	k- Give rise to the eustachian tube

**Best Wishes & Good Luck**

Examiners	1- Prof. Dr. Mohamed Mona	2- Prof. Dr. Fayez A. Shoukr
	3- Prof. Dr. Ibrahim Bakr Helal	4- Prof. Dr. Dalia F. Afifi





TANTA UNIVERSITY  
FACULTY OF SCIENCE  
DEPARTMENT OF MATHEMATICS

Final Term Exam for the Second Semester 2016-2017 first year

Course Title: Algebra

علوم طبيعـية

Course Code: MA1206

Date: 3/6/2017

Total Mark: 150 Marks

Time Allowed: 2 Hours

أجب عن الأسئلة الآتية:

السؤال الأول: (٣٥ درجة)

(١) اختار الإجابة الصحيحة في كل فقره مما يلي (٥ درجات لكل فقره):

(i) العدد الأصلي للفترة المغلقة  $[0, 1]$  هو: (أ)  $\infty$  (ب)  $\mathcal{N}_0$  (ج)  $2^{\mathcal{N}_0}$

(ii) إذا كانت الدالة  $f: \mathbb{R} \rightarrow \mathbb{R}$  حيث  $\mathbb{R}$  هي مجموعة الأعداد الحقيقية فإن الدالة  $g: \mathbb{R}^+ \rightarrow \mathbb{R}$  التي لها نفس قاعدة تعريف الدالة  $f$  (حيث  $\mathbb{R}^+$  هي مجموعة الأعداد الحقيقية الموجبة) تسمى:

(أ) تقييد الدالة  $f$  (ب) توسيع الدالة  $f$  (ج) دالة مكافئة للدالة  $f$

(iii) إذا كان النظام الجبري  $(G; *)$  مكون من المجموعة  $G$  وعمليات ثنائيه  $*$  معرفه و مغلقة على  $G$  ولها محايد  $e \in G$  ويوجد لكل عنصر في  $G$  معكوس تحت تأثير العملية  $*$  فإن هذا النظام الجبري يسمى:

(أ) شبه زمرة (ب) زمرة (ج) نظام ذو عملية أحادية

(٢) بفرض العددين 77 و 128 (٥ درجات لكل فقره)

(أ) أذكر خورزمية القسمة ثم أوجد باقى القسمة الذى يحققها بالنسبة للعددين 77 و 128 .

(ب) أوجد القاسم المشترك الأكبر للعددين 77 و 128 ثم أوجد حل لمعادلة دافوانتين لهما باستخدام خوارزمية أقليدس.

(ج) هل العددين 77 و 128 أوليين نسبياً؟ علل إجابتك.

(د) أذكر نص النظرية الأساسية للحساب ثم طبقها على العددين 77 و 128.

السؤال الثانى: (٤٠ درجة)

(١) بفرض المجموعة  $A = \{1, 2, 3, 4, 5, 6, 7, 8\}$

(أ) بين ما إذا كانت التجمعات التالية تكون تجزئى على  $A$  أم لا: (٥ درجات)

$$\pi_1 = \{\{1, 5, 6\}, \{2, 7\}, \{3, 4, 8\}\}$$

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(ب) إذا كان أحد هذه التجمعات يكون تجزئى على  $A$  فأوجد علاقة التكافؤ  $R$  المناظره له. (١٠ درجات)

(ج) أوجد راسم مجاله المجموعة  $A$  و نواته العلاقة  $R$  من الفقره (ب) ثم أذكر اسم هذا الراسم و ادرس خصائصه.

(١٠ درجات)

(٢) أثبت أنه : إذا كان  $n$  عدد فردى فإن  $3n + 5$  عدد زوجى . ثم أكتب الاثبات فى صورة حجه متحققه و أثبت تحققها. (١٥ درجة)

من فضلك أنظر الى الصفحة الثانيه (فى الخلف) ←

**السؤال الثالث: (٤٠ درجة)**

(أ) اثبت أو انفي كلاً مما يلي مع ذكر السبب: (٥ درجات لكل فقره)

(١) تمثل مجموعة الأعداد الصحيحة  $\mathbb{Z}$  مع عملية القسمة نظام جبري.

(٢) إذا كان  $f$  راسم ما فإنه يمكن تمثيله كحاصل ضرب راسمين أحدهما أحادي و الآخر فوقى.

(٣) إذا كانت مجموعة  $P$  مرتبه ترتيب كلي فإن أى مجموعه جزئيه منها يكون لها حد علوى أصغر و حد سفلى أكبر .

(٤) تعتبر الحجه التاليه حجه متحققه  $p \rightarrow q$

$q$  \_\_\_\_\_

$\therefore p$

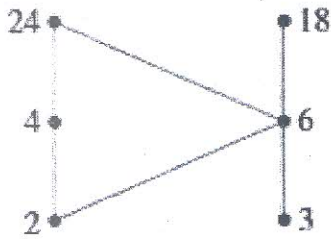
(٥) من خصائص فصول التكافؤ لعلاقة تكافؤ  $R$  معرفه على مجموعه ما  $A$  أنه إذا كان  $a, b \in A$  و كان

$b \in [a]_R$  فإن  $[a]_R = [b]_R$ .

(ب) إذا كان الراسم  $f = 2x^3 - 1$  معرف على مجموعه الأعداد الحقيقيه  $\mathbb{R}$

أوجد معكوس الراسم  $f$  إن وجد . ثم أوجد  $f\{2,3\}$  و  $f^{-1}\{15,53\}$ .

(١٥ درجة)



بفرض العلاقتين  $R$  و  $S$  المعرفتين على المجموعه  $A = \{2, 3, 4, 6, 18, 24\}$

(i) استنتج خواص العلاقه  $R$  الممثله بالرسم المقابل ثم اكتب المصفوفه التى تمثلها.

(١٠ درجات)

(ii) أوجد مجموعه الحدود العليا و الحدود السفلى للمجموعه  $A = \{4,6\}$  ثم

أوجد أكبر حد سفلى و أصغر حد علوى لها إن وجد

(١٠ درجات)

(iii) استنتج خواص العلاقه  $S$  الممثله بالمصفوفه التاليه:  $M_S = \begin{bmatrix} 1 & 1 & 0 & 0 & 0 & 1 \\ 1 & 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 1 & 1 & 0 \\ 0 & 0 & 1 & 1 & 0 & 1 \\ 0 & 0 & 1 & 0 & 1 & 0 \\ 1 & 0 & 0 & 1 & 0 & 1 \end{bmatrix}$

(٥ درجات)

(iv) أوجد محصله العلاقتين  $R \circ S$  باستخدام المصفوفات ثم مثل هذه المحصله باستخدام الرسم الموجه (١٠ درجات)

مع أطيب الأمنيات بالتوفيق والنجاح

Examiners:

أ.د/ عبد المحسن بدوى

د/ إيمان غريب رزق



1969

TANTA UNIVERSITY  
FACULTY OF SCIENCE  
DEPARTMENT OF MATHEMATICS

Final Term Exam for the Second Semester 2016-2017 first year

Course Title: Algebra

علوم طبيعى

Course Code: MA1206

Date: 3/6/2017

Total Mark: 150 Marks

Time Allowed: 2 Hours

أجب عن الأسئلة الآتية:

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(١٠ درجات)

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من فضلك أنظر الى الصفحة الثانيه (فى الخلف) ←



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(١٥ درجة)

السؤال الرابع: (٣٥ درجة)

بفرض العلاقتين  $R$  و  $S$  المعرفتين على المجموعه  $A = \{2, 3, 4, 6, 18, 24\}$

(i) استنتج خواص العلاقه  $R$  الممثله بالرسم المقابل ثم اكتب المصفوفه التى تمثلها.

(١٠ درجات)

(ii) أوجد مجموعه الحدود العليا و الحدود السفلى للمجموعه  $A = \{4,6\}$  ثم

أوجد أكبر حد سفلى و أصغر حد علوى لها إن وجد

(١٠ درجات)

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(٥ درجات)

(iv) أوجد محصله العلاقتين  $R \circ S$  باستخدام المصفوفات ثم مثل هذه المحصله باستخدام الرسم الموجه (١٠ درجات)

مع أطيبه الأمنيات بالتوفيق والنجاح

أ.د/ عبد المحسن بدوى

د/ إيمان غريب رزق

Examiners:



TANTA UNIVERSITY  
FACULTY OF SCIENCE  
DEPARTMENT OF ZOOLOGY

(FOUNDATION YEAR) STUDENTS OF GEOLOGY

COURSE TITLE:	Principles of Zoology		COURSE CODE: ZO1204
DATE:	JUNE, 2018	TERM: SECOND	TOTAL ASSESSMENT MARKS:100
			TIME ALLOWED: 2 HOURS

**First question**

**(Total mark 30)**

**Answer the following questions:**

1. Define the latitudinal gradients.
2. Explain the effect of overpopulation on biodiversity.
3. Define the biological diversity.
4. Mention the kinds of ecosystems.
5. Mention the general characters of Echinodermata.

**Second question**

**(Total mark 20)**

**Answer the following questions:**

- 1) **Using full labeled diagram**, compare between polyp and medusa. (10 marks)
- 2) Chose the correct answer and comment : (10 marks)
  1. Segmented worms have .....
    - a. A closed circulatory system.
    - b. An open circulatory system.
    - c. Asymmetry
    - d. Radial symmetry
  2. Which of these is NOT a characteristic of arthropods?
    - a. A endoskeleton
    - b. Pairs of appendages
    - c. Segmented body parts
    - d. Bilateral symmetry
  3. Which of these animals are polychaetes?
    - a. Nematodes
    - b. Earth worms
    - c. Sand worms
    - d. Leeches
  4. Which of these terms is NOT related to Porifera
    - a. Choenocytes
    - b. Trochophore larva
    - c. Calcareous spicules
    - d. Ostium
  5. Which statement is NOT true?
    - a. Arthropods have open circulatory system.
    - b. Protruded pharynx found only in Polychaeta.
    - c. Arthropods have dorsal nerve cord.
    - d. Demospongia have sponging fibers.

**Third question**

**(Total mark 14)**

- A. Give differences between Ascon, Sycon and Lycon types of Spong. (4 marks)
- B. Define these Terms:  
Ecosystem – Metameric – Echinodermata – Arthropod - Mantle (10 marks)

**Fourth question****(Total mark 36)****Complete the sentences from Group (A) with the suitable words from Group(B)**

<b>Group ( A )</b>	<b>Group ( B )</b>
1- The ventral solid nerve cord	a- muscular diaphragm
2- Protochordata include	b- in birds
3- Ammocoetes is a	c- cold – blooded animal
4- In tetrapods the pharyngeal gill slits	d- placoid scales
5- The example of tunicates is	e- Is used in feeding mechanism
6- Mammals which lay eggs is called	f- Is not a character of chordates
7- The exoskeleton of chondrichthyes is	g- teeth
8- Amphibia is divided into	h- Warm – blooded animal.
9- The air ( swim ) bladder is present in the	i- sharp horny teeth
10- The suctorial buccal funnel of petromyzon is lined by	j- Give rise to the eustachian tube
11- The post-anal tail	k- Ascidia
12- The elephant belong to subclass	L- sharks
13- Fertilization is internal in the	m- Anura , Urodela and Apoda
14- The air sacs connected with the lungs lead to highly efficient respiratory system	n- tilapia sp.
15- Crocodile is a	o- eutheria
16- Mammals is the only class that has	p- prototheria ( monotremes )
17- Modern birds has no	q- is reduced to the coccyx in humans.
18- Kangaroo is a	r- Urochordata and Cephalochordata
	S- Larva of petromyzon

Best wishes.....

**Examiners:****1. Prof. Dalia Afify.****2. Dr. Ahmad El-Bossery.**





TANTA UNIVERSITY  
FACULTY OF SCIENCE  
DEPARTMENT OF PHYSICS

EXAMINATION for (First Year) students of Biophysics. (Examiner: Dr. Ayman El Tahan)

COURSE TITLE:

biophysicsII

COURSE CODE: PH1204

DATE:

10 / 06 / 2018

TERM: SECOND

TOTAL ASSESSMENT MARKS: 200

TIME ALLOWED: 2 HOURS

**Answer the following questions:**

**First question:**

1- True or false:

- The absorption coefficient depends on the type of the absorbing medium and the energy of X-rays.
- The unit of absorption coefficient is  $\text{cm}^{-1}$ .
- To image the body tissues one can use high energy X-rays.
- The annihilation of positron will produce two photons each with 0.51 MeV energy.
- Joule/ coulomb is the unit of electric potential.
- volt/meter is the unit of the electric field intensity.
- eV. S-1 is the unit of power.
- The electric potential has always the direction of the electric field.
- The capacitance of an electric capacitor depends only on the dimension of the capacitor.
- The resistance of the material depends on the dimensions of the material.

2- What happens when a radioactive nucleus decays by Beta particles, give an example.

**Second question:**

1- Compare between:

- Isotopes, Isotones and Isomers.
- Alpha, Beta and Gamma.
- Biological and physical half-life time.
- Charging and discharge capacitors.

2- Prove that the relation between current density (J) and electric field (E)?

3- Prove that Parallel plate capacitor depends on distance, area and medium.

**Third question:**

- Prove the decay equation and half life time of radioactive materials.
- Compare between Alpha, Beta and gamma.

Continue



3- **Complete:** (write the missing part only)

- a) Any atom consists of ..... and.....
- b) If an atom is supplied with enough energy to remove an electron ,this process is called.....
- c) If the supplied energy to an atom is used by an electron to jump from inner to outer shell , this process is called.....
- d) If an electron is removed from the most inner shell, an electron will fall from .....to .....The highest probability that this electron will fall from ..... to .....
- e) Characteristic X-rays is produced due to.....
- f) Continuous X-rays is produced due to.....
- g) As an electron is decelerated through the nuclear field it will lose part of its energy as X-ray photon this X-ray is called.....
- h) In diagnostic X-ray tube the energy of the emitted X-rays depends mainly on.....
- i) The X-ray tube should be evacuated from air to prevent the interaction between.....
- j) Bone has an absorption coefficient ..... than that of muscles for this reason the half thickness layer in case of bone is .....than that of muscles.

### **Forth question:**

- 1- Compare between line spectrum and continuous spectrum.
- 2- What are the steps of Attenuation Mechanism and Law?
- 3- What is total internal reflection and critical angle?

**Good Luck**





**TANTA UNIVERSITY**  
**FACULTY OF SCIENCE**  
**DEPARTMENT OF PHYSICS**

EXAMINATION for (First Year) students of material science. (Examiner: Dr. Ayman El Tahan)

COURSE TITLE:	Introduction to biophysics	COURSE CODE: PH1226
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DATE:	29 / 05 / 2018	TERM: SECOND	TOTAL ASSESSMENT MARKS: 300	TIME ALLOWED: 2 HOURS
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**Answer the following questions:**

**First question:** (True or false)

1. The flow of  $K^+$  ions from inside the axon to outside is due to the electric field.
2. The permeability of the membrane controls the flow of  $K^+$  and  $Na^+$  ions.
3. The unit of the torque is the unit of work.
4. Bone is considered as a rigid body.
5. The axon membrane acts as a capacitor.
6. As the axon is subjected to a weak stimulus a rapid influx of  $Na^+$  will occur.
7. In the absence of the electric field the net current through a conductor is zero.
8. The excited atom is not neutral.
9. At resting ( $V_i = -90mV$ ) the permeability of the membrane is very low for  $K^+$  ions but higher for  $Na^+$  ions.
10. The space parameter  $\lambda$  is the distance at which most of the current  $i_{leak}$  is leaked through the membrane.
11. As the  $Na^+$  moves against the electric field its potential energy will decrease.
12. By increase the temperature of semiconductors, the resistance will decrease.
13. Bending over without lifting a load puts a stress on the spine.
14. When you lift a weight and the forearm in a horizontal position, there will be an exerted force on the joint greater than the weight.
15. Within the elastic limit the deformation is elastic and if the applied force is removed the object will return to its original shape.
16. Keeping the back vertical, the centers of gravity of all the weights will pass through the sacrum and the net torque is zero.
17. Equal forces are applied at the end of copper wires of the same length. If  $A_1 = 2A_2$  then  $Y_1:Y_2 = 1:2$ . (A is the cross-sectional area and Y is Young's modulus).
18. Bending over to pick up a very small object produces a very large force on the lumbosacral disk (fulcrum) which separates the last vertebra from the sacrum.
19. The unit of stress is a unit of pressure.
20. Nuclides have the same number of nucleons, but different proton number is called isotones.

**Second question:**

1. Iodine 131 is used in the treatment of thyroid disorders its half-life is 8.1 days. If a patient ingests a small quantity  $^{131}_{53}I$  of and none is excreted from the body, what fraction  $N / N_0$  remains after 8.1d, 16.2d and 60d?
2. Compare among Alpha, Beta and Gamma.
3. Find the relation between current density and electric field.

Continue



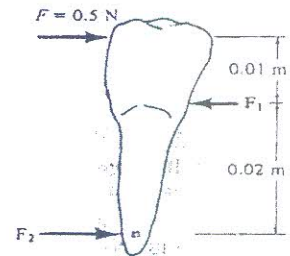


### Third question:

1- **Complete:** (write the missing part only)

- The activity of radioactive materials equals to .....
- The acceleration of moving body is zero when - - - - -.
- Heat transfer with existence medium by means of .....
- The maximum force that can be applied without breaking the wire is called - - -.
- Resistivity of any conductor depends upon .....
- All stream lines have the same directions in case of - - - - - flow, but different directions in case of - - - - -.
- Nernst equation used when the equilibrium occurred between- - - - - and - - -
- sphygmomanometer is a device measure - - - - -
- The relation between kelvin and Fahrenheit scale is .....
- An Electrocardiograph records electrical activity associated with .....

- 2- In orthodonture, forces applied to the teeth lead to make forces on the supporting bones. Gradually the bone tissue breaks down and permits the tooth to rotate or translate. New bone tissue grows in the space left behind. The forces must be small to avoid damaging the root of the tooth. Find the forces  $F_1$  and  $F_2$  on the tooth



### Fourth question:

- Discuss Stress-Strain curve with drawing.
- What happens when a radioactive nucleus decays by Alpha particles, give an example.
- Prove the decay equation and half life time of radioactive materials.

**Good Luck**



TANTA UNIVERSITY  
FACULTY OF SCIENCE  
DEPARTMENT OF ZOOLOGY

FINAL EXAM FOR 1<sup>ST</sup> YEAR BIOLOGY STUDENTS

COURSE TITLE:	INTRODUCTION TO ENTOMOLOGY 2	COURSE CODE : EN 1204
DATE:	29 MAY 2018	TERM: SECOND
	TOTAL ASSESSMENT MARKS:100	TIME ALLOWED: 2 HOURS

**1- Choose the correct answer from between the brackets (Total 30Marks, 2 Marks each)**

- The female silk worm takes no food but live enough to lay.....eggs. (100 – 300 to 400 – 700).
- The Mediterranean fruit-fly destroys plants by.....(Chewing leaves - sucking plant sap - boring in the fruits)
- Aestivation is a period of suspended activity of individual occurring during (Seasonal high temperature - dry weather- all of the previous)
- Effective temperature in which insect's development takes place is..... (10 to 35 °C - 50 to 60 °C - 5 to14 °C)
- Diurnal Insects which are active during... (Daylight hours – night – winter)
- (carbaryl - DDT - Nicotine) was the first insecticides based on hydrocarbons
- ( Carbaryl – Parathion - Nicotine ) is 30 times more toxic than DDT.
- Lead arsenate is..... in the environment.(persist-decompose)
- Biological control of insects is the use of..... instead of chemical insecticides. (Pheromones – natural enemies – hormones)
- (Omnivorous – carnivorous – herbivorous) insects feed on both plants and animals
- Blow fly is (beneficial-harmful- both of them) to man.
- Dragon fly used for biological control of (mosquitoes- horse fly- termites).
- Migration of insects is an example for relation between (insect with insect – insect with man- insect with plant).
- Sound is an example for (internal-external) stimulus.
- Insects defend themselves by (stinging- escaping- both of them)

**2- Fill in the blanks with the appropriate words (Total 20 Marks, 2 Mark each):**

- Insect pests can destroy plants by.....mouthparts such as....., by.....mouthparts such as ..... or by..... such as.....
- Hibernation is .....
- Insect adaptations to conserve moisture including..... ,..... ,..... ,.....
- Juvenile hormone is....., while ecdysone is.....
- DDT is internationally forbidden because.....
- Symbiosis is a relationship between .....and .....

50 51

a part.

g. Entomophobia is an example for a relationship between ..... and ..... where .....

h. House fly transmit .....,.....,.....

i. Facultative parasite is .....

j. Photo receptors found on .....

**3- Indicate whether the following statements are true (T) or false (F) and correct the false one (18marks, 2 each)**

- a. The mole-cricket is an example of sucking feeders. ( )
- b. Young grasshoppers eat about their weight of food a day. ( )
- c. Insect scavengers devour the bodies of dead animals and plants. ( )
- d. About 80% of the flowering plants are pollinated by insects. ( )
- e. LC 50 of an insecticide is the lethal concentration that cause death in 50% of the treated insects. ( )
- f. Pheromones are used by insects for sexual attraction, aggregation, dispersion, oviposition, and alarm. ( )
- g. Juvenile hormone helps insects to communicate among each other. ( )
- h. Young grasshoppers improve the physical properties of the soil and promote its fertility. ( )
- i. Saprophagous insects feed on animals. ( )

**4- Define the following terms (Total 12Marks, 2 Marks each)**

- a- Entomophagous insects
- b- Parasitoid
- c- Innudative release
- d- Parental care
- e- Biological control
- f- Population

**5- Write short notes on each of the following (Total 20Marks, 5 Marks each)**

- a- Dioneae sp.
- b- Qualities of a Successful Parasite in Biological Control Program
- c- Difference between parasitism and predation
- d- Social insects

EXAMINERS	ASSISST.PROF.DR. IMAN EL-HUSSEINY DR. HANAA ELBRENS SHAABAN
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TANTA UNIVERSITY  
FACULTY OF SCIENCE  
DEPARTMENT OF ZOOLOGY

FINAL EXAM FOR 1<sup>ST</sup> YEAR BIOLOGY STUDENTS

COURSE TITLE:	INTRODUCTION TO ENTOMOLOGY 2	COURSE CODE : EN 1204
DATE:	29 MAY 2018	TERM: SECOND
	TOTAL ASSESSMENT MARKS:100	TIME ALLOWED: 2 HOURS

**1- Choose the correct answer from between the brackets (Total 30Marks, 2 Marks each)**

- The female silk worm takes no food but live enough to lay.....eggs. (100 – 300 to 400 – 700).
- The Mediterranean fruit-fly destroys plants by.....(Chewing leaves - sucking plant sap - boring in the fruits)
- Aestivation is a period of suspended activity of individual occurring during (Seasonal high temperature - dry weather- all of the previous)
- Effective temperature in which insect's development takes place is..... (10 to 35 °C - 50 to 60 °C- – 5 to14 °C)
- Diurnal Insects which are active during... (Daylight hours – night – winter)
- (carbaryl - DDT - Nicotine) was the first insecticides based on hydrocarbons
- ( Carbaryl – Parathion - Nicotine ) is 30 times more toxic than DDT.
- Lead arsenate is..... in the environment.(persist-decompose)
- Biological control of insects is the use of..... instead of chemical insecticides. (Pheromones – natural enemies – hormones)
- (Omnivorous – carnivorous – herbivorous) insects feed on both plants and animals
- Blow fly is (beneficial-harmful- both of them) to man.
- Dragon fly used for biological control of (mosquitoes- horse fly- termites).
- Migration of insects is an example for relation between (insect with insect – insect with man- insect with plant).
- Sound is an example for (internal-external) stimulus.
- Insects defend themselves by (stinging- escaping- both of them)

**2- Fill in the blanks with the appropriate words (Total 20 Marks, 2 Mark each):**

- Insect pests can destroy plants by.....mouthparts such as....., by.....mouthparts such as ..... or by..... such as.....
- Hibernation is .....
- Insect adaptations to conserve moisture including..... ,..... ,..... ,.....
- Juvenile hormone is....., while ecdysone is.....
- DDT is internationally forbidden because.....
- Symbiosis is a relationship between .....and .....

a part.

g. Entomophobia is an example for a relationship between ..... and ..... where .....

h. House fly transmit ....., ....., .....

i. Facultative parasite is .....

j. Photo receptors found on .....

**3- Indicate whether the following statements are true (T) or false (F) and correct the false one (18marks, 2 each)**

- a. The mole-cricket is an example of sucking feeders. ( )
- b. Young grasshoppers eat about their weight of food a day. ( )
- c. Insect scavengers devour the bodies of dead animals and plants. ( )
- d. About 80% of the flowering plants are pollinated by insects. ( )
- e. LC 50 of an insecticide is the lethal concentration that cause death in 50% of the treated insects. ( )
- f. Pheromones are used by insects for sexual attraction, aggregation, dispersion, oviposition, and alarm. ( )
- g. Juvenile hormone helps insects to communicate among each other. ( )
- h. Young grasshoppers improve the physical properties of the soil and promote its fertility. ( )
- i. Saprophagous insects feed on animals. ( )

**4- Define the following terms (Total 12Marks, 2 Marks each)**


- a- Entomophagus insects
- b- Parasitoid
- c- Innudative release
- d- Patental care
- e- Biological control
- f- Population

**5- Write short notes on each of the following (Total 20Marks, 5 Marks each)**

- a- Dioneae sp.
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- c- Difference between parasitism and predation
- d- Social insects

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	<p style="text-align: center;"><b>TANTA UNIVERSITY</b>  <b>FACULTY OF SCIENCE</b>  <b>DEPARTMENT OF PHYSICS</b></p>			
	<p style="text-align: center;"><b>EXAMINATION for (First Year) students of material science. (Examiner: Dr. Ayman El Tahan)</b></p>			
	<b>COURSE TITLE:</b>	<b>Introduction to biophysics</b>	<b>COURSE CODE: PH1226</b>	
<b>DATE:</b>	<b>29 / 05 / 2018</b>	<b>TERM: SECOND</b>	<b>TOTAL ASSESSMENT MARKS: 300</b>	<b>TIME ALLOWED: 2 HOURS</b>

**Answer the following questions:**

**First question:** (True or false)

1. The flow of  $K^+$  ions from inside the axon to outside is due to the electric field.
2. The permeability of the membrane controls the flow of  $K^+$  and  $Na^+$  ions.
3. The unit of the torque is the unit of work.
4. Bone is considered as a rigid body.
5. The axon membrane acts as a capacitor.
6. As the axon is subjected to a weak stimulus a rapid influx of  $Na^+$  will occur.
7. In the absence of the electric field the net current through a conductor is zero.
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9. At resting ( $V_i = -90mV$ ) the permeability of the membrane is very low for  $K^+$  ions but higher for  $Na^+$  ions.
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12. By increase the temperature of semiconductors, the resistance will decrease.
13. Bending over without lifting a load puts a stress on the spine.
14. When you lift a weight and the forearm in a horizontal position, there will be an exerted force on the joint greater than the weight.
15. Within the elastic limit the deformation is elastic and if the applied force is removed the object will return to its original shape.
16. Keeping the back vertical, the centers of gravity of all the weights will pass through the sacrum and the net torque is zero.
17. Equal forces are applied at the end of copper wires of the same length. If  $A_1 = 2A_2$  then  $Y_1 : Y_2 = 1 : 2$ . (A is the cross-sectional area and Y is Young's modulus).
18. Bending over to pick up a very small object produces a very large force on the lumbosacral disk (fulcrum) which separates the last vertebra from the sacrum.
19. The unit of stress is a unit of pressure.
20. Nuclides have the same number of nucleons, but different proton number is called isotones.

**Second question:**

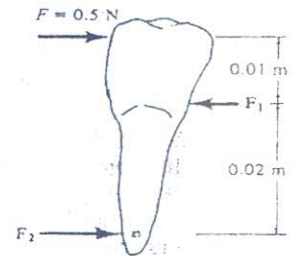
1. Iodine 131 is used in the treatment of thyroid disorders its half-life is 8.1 days. If a patient ingests a small quantity  $^{131}_{53}I$  of and none is excreted from the body, what fraction  $N / N_0$  remains after 8.1d, 16.2d and 60d?
2. Compare among Alpha, Beta and Gamma.
3. Find the relation between current density and electric field.

Continue



### Third question:

- 1- **Complete:** (write the missing part only)
- a) The activity of radioactive materials equals to .....
  - b) The acceleration of moving body is zero when - - - - -.
  - c) Heat transfer with existence medium by means of .....
  - d) The maximum force that can be applied without breaking the wire is called - - -.
  - e) Resistivity of any conductor depends upon .....
  - f) All stream lines have the same directions in case of - - - - - flow, but different directions in case of - - - - -.
  - g) Nernst equation used when the equilibrium occurred between- - - - - and - - -
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- 2- In orthodonture, forces applied to the teeth lead to make forces on the supporting bones. Gradually the bone tissue breaks down and permits the tooth to rotate or translate. New bone tissue grows in the space left behind. The forces must be small to avoid damaging the root of the tooth. Find the forces  $F_1$  and  $F_2$  on the tooth



### Fourth question:

- 1- Discuss Stress-Strain curve with drawing.
- 2- What happens when a radioactive nucleus decays by Alpha particles, give an example.
- 3- Prove the decay equation and half life time of radioactive materials.

**Good Luck**





TANTA UNIVERSITY  
FACULTY OF SCIENCE  
DEPARTMENT OF ZOOLOGY

FINAL EXAM FOR 1<sup>ST</sup> YEAR BIOLOGY STUDENTS

COURSE TITLE:	INTRODUCTION TO ENTOMOLOGY 2	COURSE CODE : EN 1204
DATE:	29 MAY 2018	TERM: SECOND
	TOTAL ASSESSMENT MARKS:100	TIME ALLOWED: 2 HOURS

**1- Choose the correct answer from between the brackets (Total 30Marks, 2 Marks each)**

- The female silk worm takes no food but live enough to lay.....eggs. (100 – 300 to 400 – 700).
- The Mediterranean fruit-fly destroys plants by.....(Chewing leaves - sucking plant sap - boring in the fruits)
- Aestivation is a period of suspended activity of individual occurring during (Seasonal high temperature - dry weather- all of the previous)
- Effective temperature in which insect's development takes place is..... (10 to 35 °C - 50 to 60 °C- – 5 to14 °C)
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- Migration of insects is an example for relation between (insect with insect – insect with man- insect with plant).
- Sound is an example for (internal-external) stimulus.
- Insects defend themselves by (stinging- escaping- both of them)

**2- Fill in the blanks with the appropriate words (Total 20 Marks, 2 Mark each):**

- Insect pests can destroy plants by.....mouthparts such as....., by.....mouthparts such as ..... or by..... such as.....
- Hibernation is .....
- Insect adaptations to conserve moisture including..... ,..... ,..... ,.....
- Juvenile hormone is....., while ecdysone is.....
- DDT is internationally forbidden because.....
- Symbiosis is a relationship between .....and .....

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g. Entomophobia is an example for a relationship between ..... and ..... where .....

h. House fly transmit ....., ....., .....

i. Facultative parasite is .....

j. Photo receptors found on .....

**3- Indicate whether the following statements are true (T) or false (F) and correct the false one (18marks, 2 each)**

- a. The mole-cricket is an example of sucking feeders. ( )
- b. Young grasshoppers eat about their weight of food a day. ( )
- c. Insect scavengers devour the bodies of dead animals and plants. ( )
- d. About 80% of the flowering plants are pollinated by insects. ( )
- e. LC 50 of an insecticide is the lethal concentration that cause death in 50% of the treated insects. ( )
- f. Pheromones are used by insects for sexual attraction, aggregation, dispersion, oviposition, and alarm. ( )
- g. Juvenile hormone helps insects to communicate among each other. ( )
- h. Young grasshoppers improve the physical properties of the soil and promote its fertility. ( )
- i. Saprophagous insects feed on animals. ( )

**4- Define the following terms (Total 12Marks, 2 Marks each)**


- a- Entomophagus insects
- b- Parasitoid
- c- Innudative release
- d- Patental care
- e- Biological control
- f- Population

**5- Write short notes on each of the following (Total 20Marks, 5 Marks each)**

- a- Dioneae sp.
- b- Qualities of a Successful Parasite in Biological Control Program
- c- Difference between parasitism and predation
- d- Social insects

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	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY			
	EXAMINATION For The First Level of Geology Students			
	COURSE TITLE	Earth Materials		COURSE CODE: GE1202
DATE:	10/6/ 2018	SEMESTER: TWO	TOTAL ASSESSMENT MARKS :100	TIME ALLOWED: 2 hrs.

### Part I: Crystallography (35 marks)

Answer the following questions. Illustrate your answer, whenever possible.

- What is meant BY: (10 marks)
  - Special Form
  - Hexaoctahedral Class
  - Solid angle
  - Gypsum Type
- Take TRUE or FALSE of the following statements and CORRECT the false one. (10 marks)
  - Monoclinic system has three equal crystallographic axes.
  - Cubic system has the lowest rank of crystal symmetry.
  - Galena mineral is pertaining to Monoclinic system.
  - Some natural minerals crystallize, forming well-developed crystal faces.
  - Interfacial angle and solid angle are the same at any crystal form.
- Discriminate between the Holosymmetrical classes of Trigonal and Triclinic Systems on the basis of: crystal elements, crystal symmetry and law of symmetry. (15 marks)

### Part Two: Mineralogy

Write briefly on the following: (20 marks)

- Chemical classification of minerals.
- Color, Hardness, Tenacity and Specific Gravity of minerals.

### Part three: Rocks

Write short notes on the following, Illustrate your answer with drawing : (45 marks)

- Classification of sedimentary rocks.
- Bedding, graded-bedding and Ripple marks.
- Classification of igneous rocks.
- Concordant and discordant occurrence of igneous rocks.
- Crystallization differentiation.
- Types of metamorphism.
- Grade of metamorphism.

Examiners: Prof. Ibrahim Salem Prof. Mohamed Th.S. Heikal





جامعة طنطا  
كلية العلوم  
شعب مختلفة (شعبة العلوم الطبيعية، شعبة الجيولوجيا، شعبة البيولوجي)  
امتحان دور مايو ٢٠١٨ التاريخ : ٥ / ٦ / ٢٠١٨  
المستوى الأول  
الزمن : ساعتان

( مادة / حقوق الإنسان )

**القسم الأول ( ٨٠ درجة )**

أجب عن سؤاليين من الأسئلة الآتية:

السؤال الأول: حقوق المرأة في قانون العمل.

السؤال الثاني: حق الإنسان في تغيير جنسيته.

السؤال الثالث: القانون الجنائي وحقوق الإنسان.

**القسم الثاني ( ٢٠ درجة )**

أكتب باختصار عما يلي :-

- أ- آلية تبادل تدريب طلاب جامعة طنطا مع الجامعات العربية .
- ب - تمثيل الطلاب في مجلس إدارة صندوق التكافل الاجتماعي بالكلية -  
والمؤتمر العلمي للكلية - ونادي الجامعة .
- ج - بعد التخرج يحق لى الاشتراك في جمعية علمية ونشر البحوث في مجلة  
علمية طبقا لتخصصي .
- د - تشكيل مجلس تأديب الطلاب بالكلية وتشكيل مجلس التأديب الأعلى مع ذكر ما  
يستوجب الأحالة لمجلس التأديب .

لجنة الممتحنين : د/ محمد عبد النبي غانم

أ.د/ سمير محمد على

مع أطيب التحيات بالنجاح والتوفيق





TANTA UNIVERSITY  
FACULTY OF SCIENCE  
DEPARTMENT OF PHYSICS



EXAMINATION FOR FRESHMEN (FIRST YEAR) STUDENTS OF **BIOLOGY**

COURSE TITLE: **GENERAL PHYSICS 2**

COURSE CODE: PH 1224

DATE:

7/6/ 2018

TERM:  
SECOND

TOTAL ASSESSMENT MARKS: 100

TIME ALLOWED: 2 HOURS

Answer the following questions:

First Question: (25Marks)

A-Define the following and write units:

(15Marks)

**The electric field- Charge density- Capacitance.**

B-Find the equivalent capacitance of two capacitors connected in series. (10Marks)

Second question: (25Marks)

A-Draw the electric lines for an electric dipole and for a point charge (2q) with a second point charge (-q).

(10Marks)

B-Give reason:

The electric field lines, for a positive point charge, the lines radiate outward and for a negative point charge, the lines converge inward. (10Marks)

C-Calculate the electric flux for carbon nucleus (z=6)

( $e = 1.6 \times 10^{-19} \text{ C}$ ,  $\epsilon_0 = 8.85 \times 10^{-12} \text{ C}^2/\text{Nm}^2$ ). (5Marks)

Third question : ( 25Marks)

A-Explain the total internal reflection.

(15Marks)

B- A laser source generates light has a wavelength 780 nm in air. Find the speed of light once enters the plastic (n=1.55) and calculate the wavelength of light in the plastic. ( $c = 3 \times 10^8 \text{ m/sec}$ )

(10Marks)

Fourth question : ( 25Marks)

A-Define the following : The law of refraction-The index of refraction

(10Marks)

B-Prove that the angle between the initial and final direction of the ray is twice the angle between the two mirrors and explain the phenomenon of retroreflection.

(15Marks)

--- Best Wishes---

EXAMINER: PROF. DR. NEIMA. Z. DARWISH



TANTA UNIVERSITY  
FACULTY OF SCIENCE  
DEPARTMENT OF PHYSICS



EXAMINATION FOR FRESHMEN (FIRST YEAR) STUDENTS OF BIOLOGY

COURSE TITLE: GENERAL PHYSICS 2

COURSE CODE: PH 1224

DATE:

7/6/ 2018

TERM:  
SECOND

TOTAL ASSESSMENT MARKS: 100

TIME ALLOWED: 2 HOURS

Answer the following questions:

First Question: (25Marks)

A-Define the following and write units:

(15Marks)

**The electric field- Charge density- Capacitance.**

B-Find the equivalent capacitance of two capacitors connected in series. (10Marks)

Second question: (25Marks)

A-Draw the electric lines for an electric dipole and for a point charge (2q) with a second point charge (-q).

(10Marks)

B-Give reason:

The electric field lines, for a positive point charge, the lines radiate outward and for a negative point charge, the lines converge inward. (10Marks)

C-Calculate the electric flux for carbon nucleus ( $z=6$ )

( $e= 1.6 \times 10^{-19} \text{C}$ ,  $\epsilon_0=8.85 \times 10^{-12} \text{C}^2/\text{Nm}^2$ ). (5Marks)

Third question :( 25Marks)

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A-Define the following :The law of refraction-The index of refraction

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B-Prove that the angle between the initial and final direction of the ray is twice the angle between the two mirrors and explain the phenomenon of retroreflection.

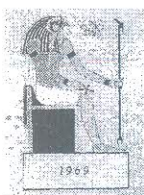
(15Marks)

--- Best Wishes---

EXAMINER: PROF. DR. NEIMA. Z. DARWISH







TANTA UNIVERSITY  
FACULTY OF SCIENCE  
PHYSICS DEPARTMENT

EXAMINATION FOR (FIRST YEAR)

COURSE  
TITLE:

COMPUTER (FOR ALL DEPARTEMENTS)

COURSE CODE: **All**

DATE : 31 MAY 2018

TERM: FIRST

TOTAL  
MARKS: 50

ASSESSMENT TIME ALLOWED: 2 HOURS

Answer all the following questions:

Rewrite the following sentences and complete it:

(a) We can arrange the icons in an open window by -----

, -----, -----, -----

(b) We can arrange the different open windows as -----

, -----, -----

(c) There are different parameters that affecting the performance of computer such as -----, -----, -----

(d) To insert a formula in a cell in Excel we start by ----

2-(a) Write briefly the components of computer

(b) Write four different methods to run any program

(c) Write the steps necessary to create a folder on desktop

(d) Write two different methods to make spelling checking in Word Program

3- Compare between each of the following:

(a) Recycle Bin and Clipboard

(b) Find and Replace a text in Word Program

(c) Word document and Template document

(d) Different types of Cell reference in Excel Program

4- (a) Write a methods to create a table in Word Program

(b) Write the steps to insert any numerical series in Excel

(c) Write the steps to insert a chart in Excel Program

(d) Write any formula to calculate the slope of data entered in range A1: B10 in Excel sheet

5- Define each of the following Excel statistical functions and write a formula to calculate only one of them using Excel for data in column A (from A1 to A10)

(a) Average (b) MEDIAN (c) MODE (d) Max


Examiners

Dr. Ahmed Abdel Azeem ,Dr. Kadry zakaria, Dr. Mahmoud Kamel

*Best Wishes*





	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF PHYSICS			
	EXAMINATION FOR FRESHMEN (FIRST YEAR) STUDENTS OF PHYSICAL SCIENCE SECTION			
	COURSE TITLE:	امتحان ضوء وكهرباء ومغناطيسية لطلبة المستوى الاول شعبه العلوم الطبيعية		COURSE CODE:PH1222
DATE:	27/5/2018	TERM: SECOND	TOTAL ASSESSMENT MARKS: 150	TIME ALLOWED 2 HOURS

**Answer The Following Questions**

**First question:**

(45 mark)

- Derive the equation that gives the value of the equivalent focal length for two thin lenses of power  $F_1$  and  $F_2$  and separated by distance  $d$  meter.
- Two thin lenses of power  $+5\Delta$  and  $-5\Delta$  were placed in air at distance of 10 cm apart from each other. Find the two surface focal lengths, the equivalent focal length and the position of the two equivalent points.
- If a spherical wave is reflected at a spherical surface, prove that the original vergence plus the power of the surface is equal to the final vergence

**Second question:**

(30 mark)

- Discuss briefly Newton's principles and show how to use them to verify the law of refraction and reflection of light.
- Describe how can we measure the refractive index of a liquid by using Pulfrich Refractometer?.

**Third question:** (45 mark)

- Write the properties of electric charges.
- Starting with Gauss's law, Calculate the magnitude of the electric field due to an isolated point charge  $q$ , and show that Coulomb's law follows from this result.
- Define: Electric flux- electric potential- current density- resistor- conductivity



**Fourth question:** (30 mark)

- Derive the capacitance of parallel plate capacitor.
- A parallel-plate capacitor has an area  $A = 2.00 \times 10^{-4} \text{ m}^2$  and a plate separation  $d = 1.00 \times 10^{-3} \text{ m}$ .  $\epsilon_0 = 8.85 \times 10^{-12} \text{ C}^2 / \text{Nm}^2$   
1-Find its capacitance. 2- How much charge is on the positive plate if the capacitor is connected to a 3.00 V Battery?
- Draw the electric field lines associated with the positive charge  $+2q$  and the negative charge  $-q$

*Best Wishes*

EXAMINERS	PROF.DR. G.A.GABALLAH	DR. SHROUK F. ELASHRY



	Tanta UNIVERSITY, Faculty of Science, Department of Botany			
	Final Examination for (First Year) Students of Biology			
	COURSE TITLE: General Botany (2)		COURSE CODE:BO1202	
DATE: 27 MAY, 2018	TERM: FIRST SEMESTER	TOTAL ASSESSMENT MARKS: 150	TIME ALLOWED: 2HOURS	

### I – Plant Physiology (75 marks)

Answer the following questions.

1. Discuss how water movement by osmosis is driven by water potential and depends on both the concentration and pressure components of the system. (25 marks)
2. Illustrate how buffer solutions resist the change in pH in enzymatic reactions. (25 marks)
3. Explain the mechanism of light reaction in photosynthesis. (25 marks)

### II – Plant Systematic (75 Marks)

Questions 1. Choose the correct answer: (15 marks)

- A. Fimbriae are shorter and more numbers than flagella in bacteria. (True – False)
- B. Diversity of vascular plants is higher than non vascular plants. (True – False)
- C. Agar, which is usually extracted from fungi, is used in preparing culture media to grow bacteria for laboratory research. (True – False)
- D. Asexual reproduction is not observed in *Spirogyra*. (True – False)
- E. Genus name always capitalized and species name always lowercase. (True – False)
- F. Mitosis and meiosis divisions occur in eukaryotes. (True – False)
- G. Viruses can only be seen by light microscope. (True – False)
- H. Pyrenoid is the site at that the polymerization of starch to form glucose takes place. (True – False)
- I. Gene therapy is an example of biotechnology applications. (True – False)
- J. Human immunodeficiency virus is a DNA virus with a high mutation rate. (True–False)

Questions 2. (20 Marks)

- A. Compare between haplontic and diplontic life cycles among algae. (10 Marks)
- B. Compare between living and non-living characteristics of viruses. (10 Marks)

Questions 3. (40 Marks)

With labeled drawings only, show each of the following:

- A. Structure of Lichens. (10 Marks)
- B. Life cycle of *Puccinia graminis* on soil only. (10 Marks)
- C. Sexual reproduction of *Chlamydomonas*. (10 Marks)
- D. Cell wall of Gram-positive and Gram-negative bacteria. (10 Marks)

Examiners:


Best wishes.....

Dr. Nasser Sewelam

Dr. Mohamed El-Shetehy





	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF PHYSICS			
	EXAMINATION FOR FRESHMEN (FIRST YEAR) STUDENTS OF PHYSICAL SCIENCE SECTION			
	COURSE TITLE:	امتحان ضوء وكهرباء ومغناطيسية لطلبة المستوى الاول شعبة العلوم الطبيعية		COURSE CODE:PH1222
DATE:	27/5/2018	TERM: SECOND	TOTAL ASSESSMENT MARKS: 150	TIME ALLOWED 2 HOURS

### Answer The Following Questions

#### First question:

(45 mark)

- Derive the equation that gives the value of the equivalent focal length for two thin lenses of power  $F_1$  and  $F_2$  and separated by distance  $d$  meter.
- Two thin lenses of power  $+5\Delta$  and  $-5\Delta$  were placed in air at distance of 10 cm apart from each other. Find the two surface focal lengths, the equivalent focal length and the position of the two equivalent points.
- If a spherical wave is reflected at a spherical surface, prove that the original vergence plus the power of the surface is equal to the final vergence

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(30 mark)

- Discuss briefly Newton's principles and show how to use them to verify the law of refraction and reflection of light.
- Describe how can we measure the refractive index of a liquid by using Pulfrich Refractometer?.

#### Third question: (45 mark)

- Write the properties of electric charges
- Starting with Gauss's law, Calculate the magnitude of the electric field due to an isolated point charge  $q$ , and show that Coulomb's law follows from this result.
- Define: Electric flux- electric potential- current density- resistor- conductivity

#### Fourth question: (30 mark)


- Derive the capacitance of parallel plate capacitor.
- A parallel-plate capacitor has an area  $A = 2.00 \times 10^{-4} \text{ m}^2$  and a plate separation  $d = 1.00 \times 10^{-3} \text{ m}$ .  $\epsilon_0 = 8.85 \times 10^{-12} \text{ C}^2 / \text{Nm}^2$   
1-Find its capacitance. 2- How much charge is on the positive plate if the capacitor is connected to a 3.00 V Battery?
- Draw the electric field lines associated with the positive charge  $+2q$  and the negative charge  $-q$

Best Wishes

EXAMINERS	PROF.DR. G.A.GABALLAH	DR. SHROUK F. ELASHRY





	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY		
	FINAL EXAMINATION FOR FIRST LEVEL GEOLOGY STUDENTS		
1969	COURSE TITLE:	INTRODUCTION TO GEOPHYSICS	COURSE CODE: GE1204
DATE:	JUNE, 2018	TERM: SECOND	TOTAL ASSESSMENT MARKS: 100 TIME ALLOWED: 2 HOURS

Answer the following questions:

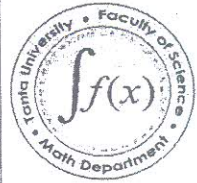

### Part I (50 marks)

1. Discuss the types of geophysical exploration techniques. (10 marks)
2. Explain the following: (30 marks)
  - a) Elevation variations of gravitational acceleration.
  - b) Gravity measurements.
  - c) Magnetic field elements.
3. Define the following: (10 marks)
  - a) Ferromagnetism.
  - b) Magnetic induction.

### Part II (50 marks)

4. Explain the following: (15 marks)
  - a) Importance of integrating geology and geophysics.
  - b) Active and passive geophysical methods.
  - c) Natural and artificial seismology.
5. Discuss each of the following: (25 marks)
  - a) Land and marine seismic data acquisition and recording.
  - b) Elastic constants.
  - c) Choosing the right geophysical method to solve a geological problem.
6. Read each of the following statements and mark either (✓) if correct or (X) if wrong: (10 marks)
  - a) **Elasticity** relates stress to strain. ( )
  - b) **Epicenter** of an earthquake is the underground point of origin. ( )
  - c) A **non-rigid** rock body movement is characterized by a displacement with no change in shape or volume and is represented only by translation and/ or rotation. ( )
  - d) Deep **refraction** seismic survey is usually used for petroleum exploration. ( )
  - e) **Minerals** usually have very high resistivities and are used as insulators. ( )

EXAMINERS	PROF. MOHAMED M. EL AWADY	PROF. ABDELAZIZ L. ABDELDAYEM
	PROF. SHADIA T. EL-KHODARY	

	<p>Tanta University-Faculty of Science Department of Mathematics 2<sup>nd</sup> Semester 2018-Final Course Title: Statics(150Degree) Level: 1 Math.(MA2104)</p>	<p>جامعة طنطا - كلية العلوم - قسم الرياضيات الفصل الدراسي الثاني - نهائي اسم المقرر: إستاتيكا (150 درجة) المستوى: الأول 2018 الشعبة: الرياضيات</p>	 <p>كلية العلوم</p>
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### السؤال الأول:

- أوجد التغير في السطح  $\phi = x^2 yz + 4xz^2 = 8$  عند النقطة  $(3, -1, 2)$  : (21 درجة)
  - (a) في إتجاه العمودى على السطح  $\phi$ . (b) في إتجاه المتجه  $\vec{a} = 2\hat{i} + \hat{j} + 2\hat{k}$
  - (c) أوجد أكبر قيمة للتغير الإتجاهى في الدالة  $\phi(x, y, z)$ .
- أوجد الزاوية بين السطحين  $3x^2 - y^2 + 2z = 1$  و  $xy^2z = 3x + z^2$  عند النقطة  $(1, -2, 1)$ . (16 درجة)

### السؤال الثاني:

- يتكون مربع من أربعة قضبان منتظمة وزن كل منهما  $W$  ومرتبطة بعضها مفصليا وضع المربع في مستوي رأسي بحيث ترتكز علي نضد أفقي عند الرأسي  $C$ . وحفظ شكل المربع الواسطة خيط خفيف غير مرن يصل بين الرأسين  $D, B$ . أوجد الشد في الخيط وعين رد فعل كل من المفصلين  $C, A$ . (17 درجة)
- أوجد مركز ثقل المساحة المحددة بالمنحنيين  $x^2 = 4ay$ ,  $y^2 = 4ax$ . (20 درجة)

### السؤال الثالث:

- أثبت أن: (24 درجة) (a)  $\nabla\phi(x, y, z)$  متجه عمودي علي السطح  $\phi(x, y, z) = \text{constant}$ . (b) تحديد نهاية المتجه  $\vec{r}$  في قانون العزم يكون اختياريا. (c) معادلة خط عمل القوة المحصلة يعطي بالعلاقة  $M_o - xR_y + yR_x = 0$ .
- علق قضيب منتظم  $AB$  وزنه  $W$  وطوله  $a$  بمفصل حر عند  $A$ . أثرت علي القضيب قوة أفقية عند طرفه  $B$  بحيث كانت  $B$  في وضع الاتزان علي بعد  $b$  من الرأس المار بالطرف  $A$  أوجد رد فعل المفصل. (17 درجة)

### السؤال الرابع:

- ثلاث نقط  $A, B, C$  إحداثياتها الكرتيزية هي  $(2, 0), (0, 2), (2, 2)$  علي الترتيب. إذا كانت عزوم مجموعة من القوى في نفس المستوي حول هذه النقط علي الترتيب هي  $3, 4, 10$  فأوجد مقدار واتجاه المحصلة وأثبت أن خط عملها يعطي بالمعادلة  $7y = 6 - 6x$  (20 درجة)

- أوجد الثوابت  $a, b, c$  لكي يكون مجال المتجه: (17 درجة)

$$\vec{V} = (x + 4y + az)\hat{i} + (bx - 8y - z)\hat{j} + (6x + cy + 4z)\hat{k}$$

مجال غير دوراني، وأوجد الدالة  $\phi$  لهذا المجال، بين هل مجال المتجه  $\vec{V}$  مجال غير متباعد أم لا.





Tanta University-Faculty of Science  
Department of Mathematics  
2<sup>nd</sup> Semester 2018-Final  
Course Title: Statics(150Degree)  
Level: 1 Math.(MA2104)

جامعة طنطا - كلية العلوم - قسم الرياضيات  
الفصل الدراسي الثاني - نهائي  
اسم المقرر: إستاتيكا (150 درجة)  
المستوى: الأول 2018  
الشعبة: الرياضيات



### السؤال الأول:

1. أوجد التغير في السطح  $\phi = x^2 y z + 4 x z^2 = 8$  عند النقطة  $(3, -1, 2)$  : (21 درجة)  
(a) في إتجاه العمودى على السطح  $\phi$ . (b) في إتجاه المتجه  $\vec{a} = 2\hat{i} + \hat{j} + 2\hat{k}$ .  
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2. أوجد الزاوية بين السطحين  $x y^2 z = 3 x + z^2$ ,  $3 x^2 - y^2 + 2 z = 1$  عند النقطة  $(1, -2, 1)$ . (16 درجة)

### السؤال الثاني:

1. يتكون مربع من أربعة قضبان منتظمة وزن كل منهما  $W$  ومرتبطة بعضها مفصليا وضع المربع في مستوي رأسي بحيث ترتكز علي نضد أفقي عند الرأسى  $C$ . وحفظ شكل المربع الواسطة خيط خفيف غير مرن يصل بين الرأسين  $D, B$ . أوجد الشد في الخيط وعين رد فعل كل من المفصلين  $C, A$ . (17 درجة)
2. أوجد مركز ثقل المساحة المحددة بالمنحنيين  $x^2 = 4 a y$ ,  $y^2 = 4 a x$ . (20 درجة)

### السؤال الثالث:

1. أثبت أن: (24 درجة) (a)  $\nabla \phi(x, y, z)$  متجه عمودي علي السطح  $\phi(x, y, z) = \text{constant}$ .  
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Tanta University-Faculty of Science  
Department of Mathematics  
2<sup>nd</sup> Semester 2018-Final  
Course Title: Statics(150Degree)  
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جامعة طنطا - كلية العلوم - قسم الرياضيات  
الفصل الدراسي الثاني - نهائي  
اسم المقرر: إستاتيكا (150 درجة)  
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$$\vec{V} = (x + 4y + az)\hat{i} + (bx - 8y - z)\hat{j} + (6x + cy + 4z)\hat{k}$$

مجال غير دوراني، وأوجد الدالة  $\phi$  لهذا المجال، بين هل مجال المتجه  $\vec{V}$  مجال غير متباعد أم لا.



Tanta University-Faculty of Science  
Department of Mathematics  
2<sup>nd</sup> Semester 2018-Final  
Course Title: Statics(150Degree)  
Level: 1 Math.(MA2104)

جامعة طنطا - كلية العلوم - قسم الرياضيات  
الفصل الدراسي الثاني - نهائي  
اسم المقرر: إستاتيكا (150 درجة)  
المستوى: الأول 2018  
الشعبة: الرياضيات



### السؤال الأول:

1. أوجد التغير في السطح  $\phi = x^2 yz + 4xz^2 = 8$  عند النقطة  $(3, -1, 2)$  : (21 درجة)  
(a) في إتجاه العمودى على السطح  $\phi$ . (b) في إتجاه المتجه  $\vec{a} = 2\hat{i} + \hat{j} + 2\hat{k}$ .  
(c) أوجد أكبر قيمة للتغير الإتجاهى في الدالة  $\phi(x, y, z)$ .
2. أوجد الزاوية بين السطحين  $xy^2z = 3x + z^2$  و  $3x^2 - y^2 + 2z = 1$  عند النقطة  $(1, -2, 1)$ . (16 درجة)

### السؤال الثاني:

1. يتكون مربع من أربعة قضبان منتظمة وزن كل منهما  $W$  ومرتبطة بعضها مفصليا وضع المربع في مستوي رأسي بحيث تتركز علي نضد أفقي عند الرأسى  $C$ . وحفظ شكل المربع الواسطة خيط خفيف غير مرن يصل بين الرأسين  $D, B$ . أوجد الشد في الخيط وعين رد فعل كل من المفصلين  $C, A$ . (17 درجة)
2. أوجد مركز ثقل المساحة المحددة بالمنحنيين  $x^2 = 4ay$  ،  $y^2 = 4ax$ . (20 درجة)

### السؤال الثالث:

1. أثبت أن: (24 درجة) (a)  $\nabla\phi(x, y, z)$  متجه عمودي علي السطح  $\phi(x, y, z) = \text{constant}$ .  
(b) تحديد نهاية المتجه  $\underline{r}$  في قانون العزم يكون اختياريا.  
(c) معادلة خط عمل القوة المحصلة يعطي بالعلاقة  $\underline{M}_o - xR_y + yR_x = 0$ .
2. علق قضيب منتظم  $AB$  وزنه  $W$  وطوله  $a$  بمفصل حر عند  $A$ . أثرت علي القضيب قوة أفقية عند طرفه  $B$  بحيث كانت  $B$  في وضع الاتزان علي بعد  $b$  من الرأس المار بالطرف  $A$  أوجد رد فعل المفصل. (17 درجة)

### السؤال الرابع:



1. ثلاث نقط  $A, B, C$  إحداثياتها الكرتيزية هي  $(2, 0), (0, 2), (2, 2)$  علي الترتيب. إذا كانت عزوم مجموعة من القوي في نفس المستوي حول هذه النقط علي الترتيب هي  $10, 4, 3$  فأوجد مقدار واتجاه المحصلة وأثبت أن خط عملها يعطي بالمعادلة  $7y = 6 - 6x$  (20 درجة)

2. أوجد الثوابت  $a, b, c$  لكي يكون مجال المتجه: (17 درجة)

$$\vec{V} = (x + 4y + az)\hat{i} + (bx - 8y - z)\hat{j} + (6x + cy + 4z)\hat{k}$$

مجال غير دورانى، وأوجد الدالة  $\phi$  لهذا المجال، بين هل مجال المتجه  $\vec{V}$  مجال غير متباعد أم لا.



	<p>Tanta University-Faculty of Science Department of Mathematics 2<sup>nd</sup> Semester 2018-Final Course Title: Statics(150Degree) Level: 1 Math.(MA2104)</p>	<p>جامعة طنطا - كلية العلوم - قسم الرياضيات الفصل الدراسي الثاني - نهائي اسم المقرر: إستاتيكا (150 درجة) المستوى: الأول 2018 الشعبة: الرياضيات</p>	 <p>كلية العلوم</p>
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### السؤال الأول:

- أوجد التغير في السطح  $\phi = x^2 yz + 4xz^2 = 8$  عند النقطة  $(3, -1, 2)$  : (21 درجة)
- (a) في اتجاه العمودى على السطح  $\phi$ . (b) في اتجاه المتجه  $\bar{a} = 2\hat{i} + \hat{j} + 2\hat{k}$
- (c) أوجد أكبر قيمة للتغير الإتجاهى في الدالة  $\phi(x, y, z)$ .
- أوجد الزاوية بين السطحين  $xy^2z = 3x + z^2$  و  $3x^2 - y^2 + 2z = 1$  عند النقطة  $(1, -2, 1)$ . (16 درجة)

### السؤال الثاني:

- يتكون مربع من أربعة قضبان منتظمة وزن كل منهما  $W$  ومرتبطة بعضها مفصليا وضع المربع في مستوي رأسي بحيث ترتكز علي نضد أفقي عند الرأسى  $C$ . وحفظ شكل المربع الواسطة خيط خفيف غير مرن يصل بين الرأسين  $D, B$ . أوجد الشد في الخيط وعين رد فعل كل من المفصلين  $C, A$ . (17 درجة)
- أوجد مركز ثقل المساحة المحددة بالمنحنيين  $x^2 = 4ay$ ،  $y^2 = 4ax$ . (20 درجة)

### السؤال الثالث:

- أثبت أن: (24 درجة) (a)  $\nabla\phi(x, y, z)$  متجه عمودي علي السطح  $\phi(x, y, z) = \text{constant}$
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- علق قضيب منتظم  $AB$  وزنه  $W$  وطوله  $a$  بمفصل حر عند  $A$ . أثرت علي القضيب قوة أفقية عند طرفه  $B$  بحيث كانت  $B$  في وضع الاتزان علي بعد  $b$  من الرأس المار بالطرف  $A$  أوجد رد فعل المفصل. (17 درجة)

### السؤال الرابع:

- ثلاث نقط  $A, B, C$  إحداثياتها الكرتيزية هي  $(2, 0), (0, 2), (2, 2)$  علي الترتيب. إذا كانت عزوم مجموعة من القوي في نفس المستوي حول هذه النقط علي الترتيب هي  $3, 4, 10$  فأوجد مقدار واتجاه المحصلة وأثبت أن خط عملها يعطي بالمعادلة  $7y = 6 - 6x$  (20 درجة)

- أوجد الثوابت  $a, b, c$  لكى يكون مجال المتجه: (17 درجة)

$$\bar{V} = (x + 4y + az)\hat{i} + (bx - 8y - z)\hat{j} + (6x + cy + 4z)\hat{k}$$

مجال غير دوراني، وأوجد الدالة  $\phi$  لهذا المجال، بين هل مجال المتجه  $\bar{V}$  مجال غير متباعد أم لا.





## جامعة طنطا - كلية العلوم

رقم المقرر: ١٢٠٢

المادة: - لغة عربية

المستوى: - الأول

الشعبة: - جميع الشعب (طبيعية، بيولوجية، جيولوجية) الدرجة: - (١٠٠ درجة)

امتحان دور مايو ٢٠١٨ م

التاريخ: - ٢٠ / ٥ / ٢٠١٨ م

الزمن: - ساعتان

### أجب عما يأتي :-

- للغة أربع وظائف رئيسة في حياة الفرد والمجتمع، حددها، ثم اشرح الدور الذي يمكن أن تلعبه كل وظيفة في تعليم اللغة العربية.

﴿ ٢٠ درجة ﴾

٢- ناقش خمسة فقط من الأخطاء الشائعة في اللغة، مبينا وجه الصواب فيها معلا ما تقول.

﴿ ١٠ درجات ﴾

٣- يقول الشاعر :-

﴿ ٢٠ درجة ﴾

حسن مجلسه غير لطـم  
إن بعض المال في العرض أمم  
تلف المال إذا العرض سلم  
إن خير المال ما أدى الذمم

مترع الجفنت ريعى الندى  
يجعل الهنء عطايا جمـة  
لا يبالى طيب النفس به  
أجعل المال لعرضى جنتـ

أ - فسر الكلمات :-

المترع - ريعى الندى - الهنء - الأمم - العرض - جنت - الذمة .

ب - كيف صور الشاعر الصفات الكريمة التي يتحلّى بها خالد في البيت الأول ؟ وما القيمة الفنية لهذا التصوير ؟

ج - رسم الشاعر في الأبيات صورة بارعة لبعض المعاني الأخلاقية .. حدد معالماها ، وبين مبعث براعتها .

﴿ ٢٠ درجة ﴾

٤- تناول بالشرح والتحليل الموضوعات الآتية:-

النكرة والمعرفة- علامات الفعل - جمع المؤنث السالم - المعرب والمبنى من الأسماء - المقصور والمنقوص .

﴿ ١٠ درجات ﴾

٥- لكل من همزة الوصل، وهمزة القطع مواضع معروفة بهما، حددها مع التمثيل لكل موضع.

﴿ ٢٠ درجة ﴾

٦ - من مسرحية ( مجنون ليلى ) لأحمد شوقي :-

أ - استقى شوقي مادة المسرحية من الأحداث التي روتها كتب الأدب .. فماذا يقصد بذلك؟ وما الموقف النقدي من هذا الاستقاء؟

ب - استوحى شوقي الأصول التراجيدية عند شكسبير .. كيف ذلك ؟ وما رأى النقد الأدبي فيه ؟

ج - في المشهد الذي درسته ثلاث شخصيات :

بين ملامح كل منها كما رسمها الشاعر ، ثم اذكر رأيك الفني في طريقته مع التعليل.

د - الحوار هو الصورة اللفظية للمسرحية.. ماذا يجب أن يتحقق فيه من سمات ؟

وما رأيك في الحوار الذي أجراه الشاعر؟ وضح ما تقول.

هـ - يعيب بعض النقاد على شوقي انجذاب مسرحه نحو الشعر الغنائي، في حين يرى آخرون أن ذلك سر قوته وبقائه.. إلى أي الرأيين تميل؟ ولماذا ؟

والله الموفق

أ.د/ أحمد نزيكي منصور