

المستوى الثاني الفترة الممائية الأربابار ٢٠١٦/٥/٢٥

Kafrelsheikh University
Faculty of Science
Department of Chemistry



2nd year (Chemistry Program)
Reaction Mechanism II Exam.
2nd Semester 2015 / 2016

(Time allowed : Two Hours)

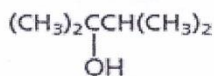
Answer the following questions :-

1. Discuss each of the following: -

- Experimental evidences support the proposed mechanism for the addition of halogens (e.g., Br₂) to olefins. (10 degrees)
- Evidences support the formation of benzyne intermediate in the nucleophilic substitution reaction between bromobenzene and the strong base potassium amide (KNH₂). (10 degrees)

2. Explain the following facts: -

- The reaction rate of the primary alkyl halide, CH₃I, with azide ion (N₃⁻) at 0 °C increased 4.5 × 10⁴-fold on transfer from methanol (ε = 33) to N,N-dimethylformamide, with very close value of polarity (ε = 37). (10 degrees)
 - Aryl halides are inert to nucleophilic substitution by S_N1 and S_N2 mechanisms of alkyl halides. (10 degrees)
 - The reaction of optically active (R)-6-chloro-2,6-dimethyloctane with water leads to an alcohol product that is approximately 80% racemized and 20% inverted. (10 degrees)
- 3. Draw and briefly discuss the potential energy profile diagram representing the mechanism for the concerted E2 elimination reaction (dehydrohalogenation) of an alkyl halide. (10 degrees)**
- 4. Write a structural formula for the carbocation intermediate formed in the dehydration of the following alcohol. Using curved arrows, show how the carbocation is deprotonated by water to give a mixture of alkenes. (10 degrees)**



WITH MY BEST WISHES
PROF. ASHRAF EL-SHEHAWY



أسم الطالب:

الرقم الأكاديمي:

أجب عن الأسئلة الآتية:

20 درجة س 1 أ - اشرح تجربة حلقات نيوتن واذكر كيف يمكن استخدامها في قياس الطول الموجي لضوء

ذى لون واحد. عشرة درجات

ب - اذكر شروط التداخل الضوئي-اشرح ظاهرة تداخل الضوء نتيجة انعكاس الضوء عبر غشاء ضوئي متساوى السمك. عشرة درجات

20 درجة س 2 أ - اشرح لماذا تظهر الهدبة المركزية في تجربة مرآة لويدي مظلمة بينما تظهر الهدبة

المعكوسة في تجربة مرآة فرنل مضبوطة. ستة درجات

ب - اوجد قيمة دوران مستوى استقطاب الضوء الذى ينتج عن مرور ضوء الصوديوم ذو الطول الموجي 5893 أنجستروم فى انبوبة بها محلول سكر تركيزه 18% علما بأن طول الانبوبة 30 سم والدوران النوعى للسكر 52.53 درجة. ستة درجات

ج - اشرح نظرية اللوح ذو المناطق. ثمانية درجات

30 درجة

أ - ما الفرق بين الضوء المستقطب استوائيا والضوء الطبيعى.

عرف: الدوران النوعى - زاوية الاستقطاب - المحور البصرى - التفريق الزاوى

س3

لمحزوز. عشرة درجات

ب - اشرح موضعا بالرسم ظاهرة الاستقطاب بالانكسار المزدوج فى المواد الضوئية المتجاهية. عشرة درجات

ج - استخدم منشور فرنل الثنائى فى الحصول على هذب تداخل وكانت المسافة بين المصدر والمنشور 30 سم والمسافة بين المنشور والحاجز 100 سم اوجد المسافة بين هذبتيْن متتاليتين علما بأن زاوية رأس المنشور 1 درجة ومعامل انكسار مادته 1.53 والطول الموجى للضوء المستخدم فى التجربة 5000 أنجستروم. عشرة درجات

⊗/ تمت الاسئلة/ مع أطيب التمنيات بالتوفيق والنجاح ⊗

Kafrelsheikh University
Faculty of Science

Final Examination in *Stratigraphy*
25/5/2016

Geology Department
Second year

(G211)

70 Marks

Time: 2 hours



I- Write short notes about: (40 Marks)

- A- Different types of biozones
- B- Stratigraphic steps
- C- Sedimentary facies
- D- Recognition of Unconformities

II- Discuss the importance of sea level change and its causes. (10 Marks)

III- Define the following: (10 Marks)

Uniformitarianism - Faunal succession - Stratigraphic superposition - Type sections -

IV- Explain only three methods (types) of the physical correlation. (10 Ms)

With best wishes
Dr. Aziz Abu Shama (☎ 0166255510)
mabushama2002@yahoo.com



Kafr Elsheikh University
Faculty of Science

Zoology department

Total degree 35 marks

2nd level of zoology

Second term .May exam 2016

Time allowed:- 1 hour

مادة وظائف الاعضاء

Illustrate and comment on the following:-

1-Sub lingual salivary glands.

2-Small intestine «Ileum».

3-liver.

My best wishes

Examining committee: Prof.Dr. Nora Fathalla, Prof.Dr. Samaa Bakr, Prof.Dr. Eatmad Zanaty



Genetic

1- Answer the following Questions:

(20 marks)

- 1- A man with blood type B, with one parent of blood type O, marries a woman with blood type AB. What will be the theoretical percentage of their children with blood type B?
- 2- In the mouse, the dominant sex-linked gene B results in a short, crooked tail. Its recessive allele b produces a normal tail. If a normal-tailed female is mated with a bent tailed male, what phenotypic ratio should occur in the F1 generation?
- 3- Huntington's chorea is a dominant lethal in humans. The disease does not appear until later in life, so that afflicted individuals may already have produced children. What are the F1 genotypic and phenotypic ratios of parents who are homozygous dominant and heterozygous?
- 4- In poultry, feathered legs (FF) are dominant over clean legs (ff) and white plumage (WW) is dominant over black plumage (ww). What will be the genotypes and phenotypes of the offspring of each of the following crosses?

(i) FFWW x ffww

(ii) FFww x ffWW

(iii) FfWw x FFWW

2- Choose the correct answer:-

(10 marks)

1. When a cell begins to prepare for cell division, DNA synthesis occurs in
A. G1 phase B. S phase C. G2 phase D. G0 phase
2. If an ant has a diploid number of 12 chromosomes, how many chromatids are in a cell during prophase of mitosis?
A. 24 B. 36 C. 12 D. 48 E. 60
3. The proteinaceous complex that forms between homologous pairs of chromosomes during prophase I is called



A. collagen B. the synaptonemal complex C. the chiasma D. the kinetochore

4. The structure that indicates that crossing-over has occurred is the

A. centromere B. synaptonemal complex C. chiasmata D. kinetochore

5. Synapsis of the homologous chromosomes occurs during

A. anaphase I B. telophase I C. prophase I D. prophase II E. metaphase II

6- Changes in the nucleotide sequence of DNA which aren't passed to offspring occur in

A. Eggs & sperm cells B. Non-sexual cells C. Diploid and haploid cells D. All of the above

7. Based on the genic balance theory, you would predict that a human with XXY sex chromosomes and a normal number of autosomes would be

A. female B. male C. intersex D. metafemale

8. In humans, many more males are affected by Duchene muscular dystrophy than females and these affected males typically come from unaffected parents. The likely inheritance pattern is

A. autosomal dominant B. autosomal recessive C. X-linked dominant D. X-linked recessive

9- A technique for identifying individual chromosomes in a cell is

A. giemsa staining B. inversion analysis C. S-banding D. G-banding

10- A human with Turner's syndrome would represent

A. a diploid condition B. a euploid condition C. an aneuploid condition
D. a trisomic condition

3- Explain of the following terms, as used in genetics;

(5 marks)

Mutation- sex linkage - multiple alleles - Consanguineous marriages

Best wishes



Kafrelsheikh University
Faculty of science
Mathematics Department

Date: 29 - 5 - 2016
Full Mark (70)

Time allowed: 2h
Second Level "Zoology"
Final Exam: 2 pages

Subject: Introduction to Statistics & Probability

Answer the following questions:

- (1)(a) The following data represent the length of life, in seconds, of 39 fruit flies subject to a new spray in a controlled laboratory experiment. From these data construct the frequency distribution then find the mean and the standard deviation

4	10	12	4	8	7	3	8	5	12	11	3	8	7	1	13
10	3	7	1	5	8	7	1	3	2	3	8	4	8	7	17
3	4	11	5	4	17	10									

- (b) The following table shows how 8 students were ranked according to their achievements in both the laboratory(x) and lecture(y) portions of biology course.

x	12	14	6	11	12	10	8	4
y	4	2	5	2	3	3	5	7

- (i) Determine the coefficient of correlation and interpret the association between x and y.
- (ii) Determine the value of y when x = 7.
- (2)(a) Pollution of the rivers has been a problem for many years. Consider the following events:
A: the river is polluted, B: a sample of water tested detects pollution,
C: fishing is permitted.
Assume $P(A) = 0.3$, $P(B|A) = 0.75$, $P(B|\bar{A}) = 0.2$, $P(C|A) = 0.4$, $P(C|\bar{A}) = 0.31$
Find (i) the probability that the river is polluted or a sample of water tested detects pollution or both.
(ii) the probability that fishing is permitted.
- (b) A random variable X takes the values -1, 0, 1 where $P(X=0) = 0.5$ and $\mu = 0.17$
Find (i) $P(X=1)$ (ii) $\text{Var}(X)$ (iii) $P(-1 \leq X \leq 1)$

(3)(a) If X is a random variable which has the probability function

x	1	2	3	4
$f(x)$	c	0.2	0.3	0.1

Find (i) the constant c (ii) $F(x)$ (iii) $E(3X+1)$ (iv) $\text{Var}(X)$

(b) The probability that a person suffering from migraine headache will obtain relief with a particular drug is 0.6. Five randomly selected sufferers from migraine headache are given the drug. Find the probability that the number obtaining relief will be:

(i) Exactly zero. (ii) two or more. (iii) Four or fewer.

(c) The time it takes a cell to divide (called mitosis) is normally distributed with an average time of 30 minutes and a standard deviation of 4 minutes

(i) What is the probability that a cell divides in less than 32 minutes.

(ii) What is the probability that a cell divides in more than 33 minutes.

(iii) What is the probability that a cell takes between 27 and 33 minutes to divides.

Standard Normal Curve Areas $P(Z \leq z_0)$

z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	z
0.00	.5000	.5040	.5080	.5120	.5160	.5199	.5239	.5279	.5319	.5359	0.00
0.10	.5398	.5438	.5478	.5517	.5557	.5596	.5636	.5675	.5714	.5753	0.10
0.20	.5793	.5832	.5871	.5910	.5948	.5987	.6026	.6064	.6103	.6141	0.20
0.30	.6179	.6217	.6255	.6293	.6331	.6368	.6406	.6443	.6480	.6517	0.30
0.40	.6554	.6591	.6628	.6664	.6700	.6736	.6772	.6808	.6844	.6879	0.40
0.50	.6915	.6950	.6985	.7019	.7054	.7088	.7123	.7157	.7190	.7224	0.50
0.60	.7257	.7291	.7324	.7357	.7389	.7422	.7454	.7486	.7517	.7549	0.60
0.70	.7580	.7611	.7642	.7673	.7704	.7734	.7764	.7794	.7823	.7852	0.70
0.80	.7881	.7910	.7939	.7967	.7995	.8023	.8051	.8078	.8106	.8133	0.80
0.90	.8159	.8186	.8212	.8238	.8264	.8289	.8315	.8340	.8365	.8389	0.90
1.00	.8413	.8438	.8461	.8485	.8508	.8531	.8554	.8577	.8599	.8621	1.00

Best Wishes, M.M.Khalifa



Answer the following questions:

I- Define the following: (15 marks):

- a- The interfacial angle and their law
c- Parameters and Indices

- b- Polymorphism
d- Mineral
e- Dome

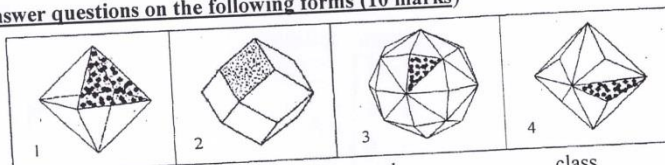
II-Answer the following sentences True or False. (20 marks)

- 1) Chemical formula for Chalcopyrite is CuFeS_2
- 2) The open tube test is used to examine the minerals in reduction condition
- 3) Kaolinite is more likely to be produced under mild weathering conditions (not too hot or humid)
- 4) The triclinic system is characterized by having only center of symmetry
- 5) Ice are not minerals.
- 6) The horizontal plane is represented as solid lines and curves in stereographic projection.
- 7) The isometric system has the highest degree of symmetry when compared to all the other crystal systems.
- 8) Solid Angles formed by intersection of more than two faces.
- 9) Anion mean that atom loss electrons
- 10) Hardness number of orthoclase= 6

III- Answer the following questions: (15 marks)

- a. Classify the following properties as chemical or physical. (5 marks)
1. Color, 2. Fracture, 3. Flam test, 4. Odor, 5. Charcoal in blow piping
- b. A particular atom of argon contains 18 protons, 18 electrons, and 22 neutrons. What is the atomic number of this atom? What is its mass? (5 marks)
- c. What are the differences between Crystalline Substances and Amorphous substances on cooling curve? (5 marks)

IV- Answer questions on the following forms (10 marks)



- A- All forms belong tosystem andclass.
- B- Write the names of forms and Miller indices of the shaded faces.
- C- Write complete symmetrical formulae for these forms.
- D- Draw the stereographic projection of symmetry elements for the system that these forms belong to.

V- Write short article on the following:(10 marks):

- a. Classification of crystalline substances according to their crystallographic elements.
- b. Determination of specific gravity by using the pycnometer.

Best wishes
Dr. Metwally Lebda

المستوى الثاني الفترة المسائية الأربعاء ٢٠١٦/٦/١١



Kafer El-Sheikh University

Second year chemistry

Faculty of Sciences

Pure mathematics

Department of Mathematic

Time-2h

Answer the following questions:

(1) $\frac{dy}{dx} = \frac{x\sqrt{x^2 + y^2} + y^2}{xy}, x > 0$

(2) $(\cos x)y' - (\sin x)y = 2\cos^2 x$ (3) $(1 - \sqrt{7})y' - (\cot x)y = x(y^{\sqrt{7}})$

(4) $y' - \frac{1}{3}(\cot x)y = (\cos^4 x)y^4$ (5) $[y \cos(xy) - \sin x]dx + x \cos(xy)dy = 0$

(6) $[\sin(xy) + xy \cos(xy) + 2x]dx + [x^2 \cos(xy) + 2y]dy$

(7) $y''' - 7y'' + 25y' - 39y = 0$ (8) $(D - 5)^4(D + 36)^2 = 0$

(9) Find F_x, F_y for the following equations:

(1) $F(x, y) = \tan^{-1} xy + x^3 \cos xy$ (2) $F(x, y) = \sin^{-1}(xy) + \sqrt{4 + x^2 + y^2}$

(10) Evaluate the integral $\iint_R x dx dy$

Where R is a region bounded by $y^2 = 16x$ $y^2 = 17 - x$ $y = 0$

انظر بقية الأسئلة في الخلف

(11) Sketch the following equations in the space:

(1) $\frac{x^2}{9} + \frac{y^2}{16} + \frac{z^2}{36} = 1$ (2) $x^2 + 4y^2 = 8z$



Kafrelsheikh University
Faculty of science
Mathematics Department

Date: 1 - 6 - 2016
Full Mark (70)
Subject: Biomathematics

Time allowed: 2h
Second Level "Chemistry"

Answer the following questions:

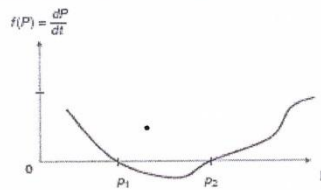
(1) The data in the following table show the initial phase of yeast culture growth over 6 hours. The size of the yeast population is measured in terms of biomass.

Time (hours)	0	1	2	3	4	5	6
Biomass	5.3	7.2	9.6	12.9	17.1	23.2	31.4

- (a) Use this data to determine the best values for k and r for the discrete and continuous models.
(b) Use the values determined in part (a) to create a table displaying the actual and predicted values from the discrete and continuous models.

(2)(a) Derive the logistic model that describe the growth in the size of populations of living organisms.

(b) For the graph of $f(P)$ shown in the following figure. Locate the equilibrium points, and classify them as stable or unstable

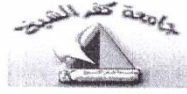


- (c) Derive the SIR model to describe the spread of an epidemic.
(3)(a) Show that according to the SIR model a fraction of the population will never get infected with the disease.
(b) Construct the phase plane for the model defined by the equations:

$$\frac{dS}{dt} = -0.002SI + 0.1S, \quad \frac{dI}{dt} = 0.002SI - 0.4I$$

Also find the equilibrium points of the system.

Best Wishes, M.M.Khalifa



الفرقة: ثانية رياضيات
المادة: هندسة فراغية (ر 214)
الزمن: ساعتان

جامعة كوفة الشيخ
كلية العلوم
قسم الرياضيات
امتحان الفصل الدراسي الثاني
للعام 2015 ----- 2016 م

أجب عن الأسئلة الآتية:

س(أ) أثبت أن المسافة بين نقطتين $P_1(x_1, y_1, z_1), \dots, P_2(x_2, y_2, z_2)$ في الفراغ

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2 + (z_2 - z_1)^2} \quad \text{تعطى بالعلاقة}$$

ب) اوجد جيب تمام الزاوية بين الخط الذي يمر ب $(6,5,2)$, $(9,7,5)$ والخط الذي يمر ب $(8,4,6)$ إلى $(4,7,9)$.

ج) برهن أن الصورة العمودية للمستوي هي $x \cos \alpha + y \cos \beta + z \cos \gamma - p = 0$

حيث p هي طول العمود النازل من نقطة الاصل على المستوى.

د) أثبت أن المسافة بين نقطة $P(x_0, y_0, z_0)$ ومستوي $\pi: Ax + By + C + D = 0$ تعطى بالعلاقة

$$d = \frac{|Ax_0 + By_0 + Cz_0 + D|}{\sqrt{A^2 + B^2 + C^2}}$$

س(2) (أ) برهن أن اشرط اللازم والكافي لكي يتوازي الشعاع $\vec{a}(a_1, a_2, a_3)$ مع المستوى

$$Ax + By + C + D = 0 \quad \text{هو} \quad Aa_1 + Ba_2 + Ca_3 = 0$$

ب) أثبت أن المستقيمين L_1, L_2 واقعان في مستوي واحد وعين معادلة هذا المستوى

انظر بقية الأسئلة في الخلف

$$L_2 : \frac{x-1}{5} = \frac{y}{-2} = \frac{z}{3} \quad \text{و} \quad L_1 : x+y-3z-1=0, \dots, 2x-y-9z-2=0$$

(ج) أوجد معادلة المستوى العمودي على المستوى OXZ والمار بالنقطتين $P_1(1,1,2), \dots, P_2(3,5,4)$

(3) مثل بيانيا كل من المعادلات التالية في الفراغ:

$$(1) 9x^2 + 4y^2 = 9z, \dots (2) \frac{x^2}{16} + \frac{y^2}{9} + \frac{z^2}{49} = 1, \dots (3) 3y + 4z = 12$$

س (4) أوجد معادلة الدائرة الناتجة من تقاطع الكرة

$$x + 2y + 2z + 1 = 0 \quad \text{مع المستوى} \quad x^2 + y^2 + z^2 - 4x - 4y - 2z - 16 = 0$$

تمنياتي بالتوفيق د/ نبيلة



Kafrelsheikh University
Faculty of science
Mathematics Department

Date: 1 - 6 - 2016
Full Mark (70)
Subject: Biomathematics

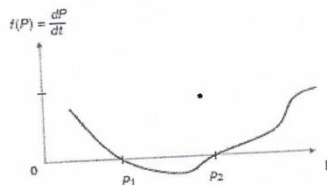
Time allowed: 2h
Second Level "Chemistry"

Answer the following questions:

(1) The data in the following table show the initial phase of yeast culture growth over 6 hours. The size of the yeast population is measured in terms of biomass.

Time (hours)	0	1	2	3	4	5	6
Biomass	5.3	7.2	9.6	12.9	17.1	23.2	31.4

- Use this data to determine the best values for k and r for the discrete and continuous models.
 - Use the values determined in part (a) to create a table displaying the actual and predicted values from the discrete and continuous models.
- (2)(a) Derive the logistic model that describe the growth in the size of populations of living organisms.
- (b) For the graph of $f(P)$ shown in the following figure. Locate the equilibrium points, and classify them as stable or unstable



- (c) Derive the SIR model to describe the spread of an epidemic.
- (3)(a) Show that according to the SIR model a fraction of the population will never get infected with the disease.
- (b) Construct the phase plane for the model defined by the equations:

$$\frac{dS}{dt} = -0.002SI + 0.1S, \quad \frac{dI}{dt} = 0.002SI - 0.4I$$

Also find the equilibrium points of the system.

Best Wishes, M.M.Khalifa



Answer the following questions. Illustrate your answer with labeled drawings whenever possible.

1- Compared between the nervous system of Chalcides and the Rabbit. (10 marks)

2-Make labeled drawings only of the following: (20 marks)

- a- Circulatory system of rabbit.
- b- Digestive system of pigeon
- c- Urinogenital system female Chalcides

(20 marks)

3- Write short notes on:

- a- Integumentary system of Chalcides.
- b- Respiratory system of pigeon.
- c- The characteristics common to all Amphibia and classification.
- d- The structure of a nephron

(20 marks)

4- Complete each statement.

- 1-are those which liberate their secretions directly into the blood or lymph and without any duct.
- 2- The ureter starts from theand runs backwards along the dorsal abdominal wall and opens posteriorly into.....
- 3- Each uriniferous tubule is formed of aand.....
- 4- In rabbit the lymph nodes are found, in.....,, near large blood vessels, groins on theandon the intestine are formed by these nodes.
- 5- The right lung in rabbit is divided intowhile the left lung into.....
- 6- The innermost layer of the epidermis iswhich is made of
- 7- In birds....., lies the dorsal side of cloaca and its lymphoid thick-walled pouch.
- 8- Kidney in amniotes is.....
- 9- The ear of mammals is divided into.....
- 10- Mammals help retain the heat they produce by: having.....by
- 11- In mammalia the systemic aorta comes from theand curves towards theof the body.
- 12- In rabbit the larynx hasin its cavity.
- 13- The cerebral hemispheres are connected by a sheet of nerve fibres called
- 14- The epiglottis closesduring food swallowing.
- 15-are different from all other mammals in that they lay eggs.

Best wishes

Vibors
Vibors
Causes
Causes

Kafrelsheikh University
Faculty of Science
Geology Department
Second level (Geol.)
Second Term 2015/2016



Time: 2h
Subject: Igneous Petrology (G207)
Total Marks: 100 (70 Written, 10 Oral, 20 Exercises)
Date: 1/06/2016
Exam in two pages

Answer the following questions:

I- Complete with right word: (20 marks)

1. Silicate liquids existing beneath the Earth's surface are called Lava.
2. When a basaltic liquid first starts to crystallize the first mineral in the Continuous Reaction Series to form is _____.
3. The intrusive compositional equivalent of rhyolite is Granite.
4. An extrusive igneous rock composed of crystals that are so small that you can not detect them with the naked eye is said to exhibit an _____ texture.
5. The intrusive compositional equivalent of andesite is _____.
6. When ash is lithified it is called _____.
7. Lapilli tuff contains particles ranging from _____ and _____ mm in size.
8. Pressure-release melting is a process that is thought to dominate beneath _____.
9. When a basaltic liquid first starts to crystallize the first mineral in the Discontinuous Reaction Series to form is _____.
10. Extrusive igneous rocks form from the crystallization and consolidation of _____ or the eruption and accumulation of _____ material.

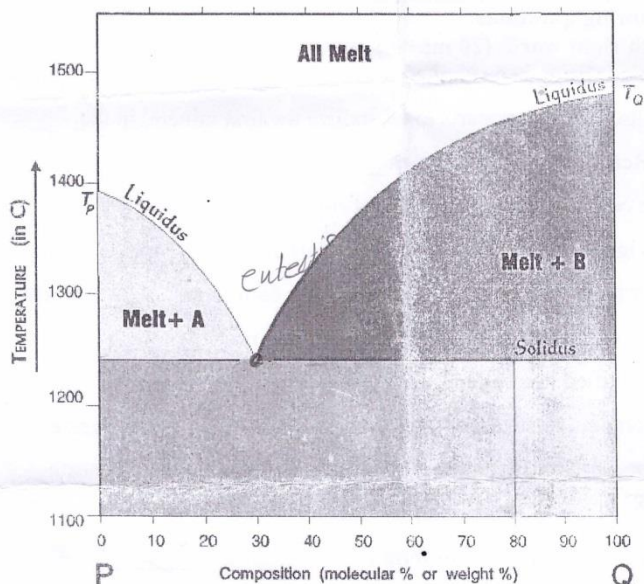
II. What are the three ways that magma is generated? – How is magma generated in each case? (10 marks)

III. Explain and illustrate each of the following landforms or bodies (20marks)

- (a) dike, (b) laccolith, (c) cinder cone, (d) caldera, (e) shield volcanoes

باقى الأسئلة خلف الصفحة

IV. On diagram, Imagine a rock containing 80 % Q and 20% P with a 30%Q/70%P eutectic. It is slowly heated until it reaches the solidus line. (20 marks)



- What will be the composition of the first drop? 1230
- What is the first component will be completely melt? A
- Imagine the process stops just at the point the first component completely melt and all the melt is removed (fractionated) from the system. What will be the composition of the remaining unmelted rock? A + solid B
- In question c, what is the temperature at which the remaining unmelted rock will be completely melt? 1400
- If the system remains in equilibrium through its history, What will be the composition of the resulting melt at 1500° 80% Q & 20% P

Best wishes,
Dr. ElMetwally lebda

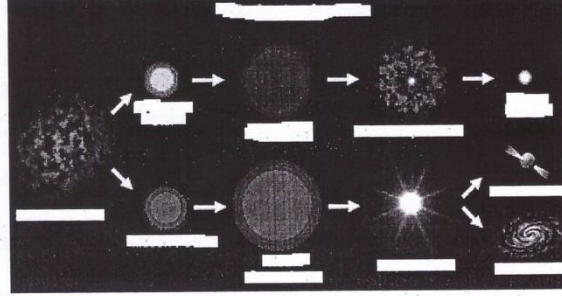
السؤال الرابع

اختر الإجابة الصحيحة من الإجابات الموجودة بعد كل سؤال :

- 1 - زمن التتابع الرئيسي لنجم بوحدة المليون سنة له $M/M_0 = 30$ و $L/L_0 = 140000$
 - أ - 2.1 ب - 1.2 ج - 3.2 د - 4.2
- 2 - زاوية ميل الشمس في 16 أكتوبر 2006 هي .
 - أ - 14.5 ب - 13.2 ج - 12.1 د - 9.6
- 3 - زمن الانهيار التناقلي لنجم له $M/M_0 = 9$ و $R/R_0 = 3.5$ بوحدة الساعات
 - أ - 10.1 ب - 1.01 ج - 20.01 د - 0.12
- 4 - سرعة الهروب (بوحدة m/s) من الثقب الأسود الناتج عن نجم كتلته 12 مرة قدر كتلة الشمس إذا كان نصف القطر الحرج له 3 كم
 - أ - 8.9×10^8 ب - 11.2×10^8 ج - 9.8×10^8 د - 19.3×10^8
- 5 - إذا كان الفرق في القدر الظاهري بين نجمين هو $m_2 - m_1 = 3$ فإن النسبة بين شدة لمعان النجمين F_2/F_1
 - أ - 1:15.8 ب - 1:1000.6 ج - 1:100.2 د - 1:16.2
- 6 - بعد كوكب المشتري عن الشمس بالوحدات الفلكية مستخدماً قانون بود هو
 - أ - 1.5 ب - 5.2 ج - 2.5 د - 3.6
- 7 - إذا كان زمن دوران المريخ حول الشمس 687 يوم فإن متوسط المسافة بينهما بوحدة Km هي
 - أ - 882×10^6 ب - 228×10^6 ج - 328×10^6 د - 782×10^6
- 8 - إذا كان اختلاف المنظر لأحد النجوم القريبة بالنسبة للنجوم البعيدة هو 3.03×10^{-6} راديان فإن بعد النجم بوحدة البار سك هو
 - أ - 1.53 ب - 5.43 ج - 3.43 د - 7.21
- 9 - بعد الأرض عن الشمس بالمتر في 25 أبريل هي
 - أ - 1.258×10^{11} ب - 1.518×10^{11} ج - 1.815×10^{11} د - 1.158×10^{11}

السؤال الخامس

- 1- اشرح مع التوضيح بالرسم دائرة الحركة اليومية لنجم .
- 2 - اكتب مراحل تطور النجوم على الشكل التالي



دورة حياة النجوم

- رسم خريطة نجمية توضح أهم أبراج أي فصل من فصول السنة.
- 4 - اثبت رياضيا أن سرعة الكواكب في مدارها البيضاوي حول الشمس تزداد بالقرب من الشمس وتقل بالبعد عنها وذلك باستخدام قوانين كيبلر .
 - 5 - وضح بالرسم ميل الشمس في الإحداثيات الاستوائية وذلك في الاعتدالين والانتقاليين .
 - 6 - احسب طول اليوم الشمسي في مدينة خط عرضها 31 درجة وزاوية ميل الشمس فيها 23.05° .
 - 7 - وضح بالرسم فقط الإحداثيات الأفقية لنجم .



Answer the following questions.

Question number (I): Complete the following in table: (20 marks)

- 1- Isotope of sodium-24 are α - β emitter with a half life = injected into the as a salt solution can be monitored to trace the flow of blood.
- 2- One Curie corresponds to exactly nuclear disintegrations per second.
This decay rate is equivalent to of radium.
- 3- The ^{99m}Tc isotope has a half-life of about decaying by to technetium-99 in its nuclear ground state.
- 4- A major advantage of using isotopes as tracers is that they are easy to detect. Their presence even in very small amounts can be by photographic techniques or by devices known as
- 5- Herbs and spices are irradiated to control The radiation sources for most food preservation are and both of which are γ emitters.
- 6- Somatic damages are those that affect the organism during its own lifetime. Such as, and
- 7- Beta-particle emission lead to a decrease in the number of
- 8- All isotopes inside the belt of stability are element as example
- 9- In light water reactors H_2O used as while the nuclear fuel consists of usually in the form of

Question number (II): Writs short notes on: (15 marks)

- a) Dating using U-238 isotopes.
- b) Stability of nucleus (Magic numbers **and** odd-even numbers for protons and neutrons).
- c) Define transuranium elements and write nuclear equation for preparation the first four elements.

Question number (III): Define the following terms: (10 marks)

- 1- Mass defect.
- 2- Nuclear fission.
- 3- Radioactive decay series.
- 4- Critical mass.
- 5- Einstein's theory of relativity.



اولا النبات الاقتصادي (35 درجة)

سؤال الاول (10 درجة)

عرف ما يأتي:

- 1- نسيج الخشب 2- الدباغيات 3- الصمغ 4- الرتنجات 5- العقار النباتي

السؤال الثاني (10 درجة)

- وضح كيف يمكن تصنيف العقاقير و اذكر مواضع تواجد المواد الفعالة في النبات مع ذكر مثال واحد فقط لكل موضع و اهميته العلاجية و يفضل الاجابة في جدول كالآتي

- موضع استخراج العقار	- مثال للعقار المستخرج	- الهمية العلاجية
-	-	-

السؤال الثالث:

أ - اكمل الفراغات الآتية : (15 درجات)

يمكن تصنيف الالياف علي اساس الاستعمال الي ست مجموعات هي:

- 1- 2- 3-
4- 5- 6-

- من اهم استعمالات الياف الكابوك

- 1- 2- 3-

ب-رتب المراحل التي تمر بها عملية اعداد الكتان

- 1- فصل الالياف القصيرة عن الالياف الطويلة عن طريق التمشيط
2- تكسير السوق
3- الحصاد
4- تعفين الالياف
5- التجفيف و التنظيف
6- الغزل

ضع الترتيب الصحيح في الجدول كالآتي

--	--	--	--	--	--

ج- من الصفات الشكلية المميزة للاخشاب هي الخشب الرخو و الخشب الصميمي فكيف تميز بين النوعين؟

← أنظر ملحق الامتحان

ثانيا علم المحاصيل (35 درجة)

السؤال الاول (9 درجة)

عرف ما يأتي:

- 1- المحصول الحقل
- 2- الحشائش
- 3- ما المقصود بتربية و تحسين المحاصيل

السؤال الثاني (10 درجة)

وضح كيف يمكن تقسيم المحاصيل طبقا للاستعمال الاقتصادي لها يفضل الاجابه في جدول كالاتي

المحاصيل.....	التعريف.....	ثلاثة امثلة

لسؤال الثالث: 16 درجة)

أ- قارن بين الاتي في جدول مع ذكر امثلة كأحد اوجه المقارنة

- 1- المحاصيل الحولية و المحاصيل ذات حولين
- 2- المحاصيل المؤقتة و محاصيل التحميل
- 3- نباتات النهار الطويل و نباتات النهار القصير و النباتات المحايدة ضوئيا

ب- اذكر باختصار العوامل المحدده لاختيار صنف المحصول

ج_ وضح باختصار كيف يمكن تقليل التأثير الضار لانخفاض درجات الحرارة علي المحاصيل

End of the exam

With best wishes
Dr. M.Samir



Answer the following questions

(25 Marks)

Question1

a) If $f(x) = O(x^\alpha)$, $x \rightarrow \infty$

prove that $\int_0^x f(t)dt = O(x^{\alpha+1})$, $x \rightarrow \infty$, $\alpha \neq -1$

b) By three different methods, find $\int_0^3 \phi(x) dx$ where,

$$\phi(x) = \begin{cases} x^2 & 0 \leq x \leq 2 \\ 2x & 2 \leq x \leq 3 \end{cases}$$

(20 Marks)

Question2

a) Show that the following functions are linear dependent or linear independent ?

1) e^{iax} , $\cos ax$, $\sin ax$

2) 1 , x , x^2

b) Find the Fourier series of the following function $f(x) = x^2$, $-\pi \leq x \leq \pi$.

And show that $\sum_{n=1}^{\infty} \frac{1}{n^2} = \frac{1}{6} \pi^2$

(25 Marks)

Question3

a) If $R^2 = \{(x, y) : x = (x_1, x_2), y = (y_1, y_2)\}$

and defined, $d(x, y) = \left[\sum_{j=1}^2 (x_j - y_j)^2 \right]^{\frac{1}{2}}$, prove that (R^2, d) is a metric space?

b) By two different methods, find Stieltjes' integral of the following integral :-

$$\int_0^3 x d(x^2 + 1)$$

With Best Wishes Dr. \ Amin Elfeky

٢٠١٦/١٦/١٩

الزمن

الفترة المسائية

المستوى الثاني

Kafrelsheikh University
Faculty of Science
Physics Department
Second level (Physics)
Second Term 2015/2016



Time: 2h
Subject: Nuclear Physics (1) Ph214
Total Marks: 70 written
Date: 19/06/2016
Exam in One page

Answer the following equations:

Question (1):

(14 marks)

Write in details about the mass spectrometer and show how to determine the mass of the proton by using this spectrometer.

Question (2):

(14 marks)

Write in details about the first three terms of the semi-empirical formula to describe the nucleus of any atom.

Question (3):

(14 marks)

Write in details about the following processes:

- The atomic decay with β^- emission.
- The atomic decay with β^+ emission.
- Electron capture decay.

Question (4):

(14 marks)

If you have 1.5 grams of Strontium isotope ($^{90}_{38}\text{Sr}$), its half life time is 28 years calculate:

- The decay constant.
- Primary radioactivity.
- Mean lifetime τ
- Its activity after 14 years

Note that: a) Avogadro's Number = 1 gm atom = 6.02×10^{23} atoms

b) 1 Year = 3.15×10^7 sec

Question (5):

(14 marks)

Write in details about the artificial radioactivity and show how you can obtain some of radioactive elements

The End of exam

Dr. Kamal Reyad

المستوى الثاني الفترة الحسابية الأربعة ٢٠١٦/١٨



جامعة كفر الشيخ	بسم الله الرحمن الرحيم	الفرقة: الثانية
كلية العلوم	امتحان الفصل الدراسي الثاني	المادة: ديناميكا (٢)
قسم الرياضيات	لعام ٢٠١٥-٢٠١٦ م	الزمن: ساعتان
	الأربعاء: ٢٠١٦/٦/٨ م	

اجب عن الاسئلة الآتية

١- أوجد القوة تجاة القطب في حالة المنحني $r^n = a^n \cos n\theta$ ثم ادرس الحالات الخاصة عندما $n = 1, 2, \pm \frac{1}{2}$.

٢- إذا كانت سرعة جسيم يتحرك علي منحني مستوي في الاتجاه المركزي والعمودي عليهما $4\theta, 2r$ أوجد مركبتي العجلة ومعادلة المسار للجسيم.

٣- يتحرك جسيم كتلته m في مدار مركزي تحت تأثير قوة جذب $[mk(3au^4 - 2(a^2 - b^2)u^3)]$ حيث $a > b$ فإذا قذف الجسيم من أبس علي بعد $a+b$ من O بسرعة $\sqrt{k/(a+b)}$ برهن ان معادلة المسار هي $r = a + b \cos \theta$.

٤- يدور قضيب منتظم في مستوي رأسي حول احد طرفيه إذا علم انه بدأ الحركة من سكون عندما كان افقياً. اثبت ان رد الفعل الافقي عند نقطة التثبيت يكون اكبر ما يمكن عندما يميل القضيب بزاوية $\frac{\pi}{4}$ علي الرأسي وان رد الفعل الرأسي عندئذ يساوي $\frac{11}{8}mg$ حيث m كتلة القضيب.

والله ولي التوفيق

أ.د/ اسامة أبوسعدة

جامعة كفر الشيخ
كلية العلوم
قسم الفيزياء



إمتحان مستوى ثان

برنامج جيولوجيا

أسم المقرر الديناميكا الحرارية

كود المقرر: ف 204

اليوم والتاريخ : الاربعاء 2016/6/8

الزمن : ساعتان

الدرجة الكلية : الدرجة 70

عدد الأوراق : واحد

أسم الطالب:

الرقم الأكاديمي:

أجب عن الأسئلة الآتية:

20 درجة س 1 أ اذكر مع البرهان قانون كيرتشفوف للأشعاع الحرارى.

ب اذكر القانون الأول للديناميكا الحرارية ثم استخدمه لحساب صافى الشغل فى العملية الدورية.

15 درجة س 2 أ اذكر مع البرهان مبدأ كارنوت.

ب وضح كيف استطاع فان درفال استنتاج معادلة حال لوصف الغازات الفعلية.

15 درجة س 3 أ استنتج النسبة بين معامل المرونة الادياباتيكية والايذوثرمال.

ب برهن ان انتروبيا العالم تعاني زيادة مستمرة.

20 درجة س 4 - عند تسخين 1 جم من غاز تحت ضغط ثابت لترتفع درجة حرارته 1 درجة مئوية بذل شغل مقداره 0.42 جول احسب الحرارة النوعية للغاز تحت ضغط ثابت ، علما بأن الحرارة النوعية تحت حجم ثابت 0.2 سعر /جم/درجة مئوية ومكافئ جول 4.2×10^7 ارج /سعر.

- تمتص اله كارنوت المثاليه القابله للعكس كميته حراره قدرها 2000 جول من المصدر الساخن عند درجة 200 مئوية وتعطى كميته حراره للمكثف البارد عند درجة الصفر المئوى. احسب الشغل المبذول خلال الدورة.

⊗ مع أطيب التمنيات بالتوفيق والنجاح ⊗

د كمال رياض

د محمد رمضان

لجنة الممتحنين
والمصححين

الشعبة: ثانية علوم بيولوجي (حيوان + نبات)

الزمن : ٢ ساعات

المادة : كيمياء عضوية



جامعة كفر الشيخ

كلية العلوم

قسم الكيمياء

العام الجامعي { ٢٠١٦ }

Answer the following questions:

1] Write the chemical structure of the following compound: {10 point}

- 1)4-ethyl-3,5-dimethyl-2-hexane 2)2-methyl-2-butene 3)5-methyl-3-heptyne
4)valeric acid 5)2-methyl-3-pentanone 6)2,5-dimethyl-5-ethylhexanol
7)3,3-dimethyl butamide 8)2-bromobutanol 9)caporic acid
10)3-methyl pentanoic acid

2]Prepare the following compounds : {15 point}

- 1)Trimethyl methanol from 2-methyl propanol
2)Ethanol from propanol
3)Methyl semicarbazone from acetylene

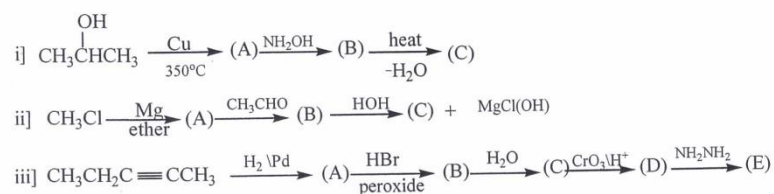
3]Write a short notice about the following : {15 point}

- 1)Markinokov"s rule 2)Aldol condensation 3)Williamson synthesis
4)Cannizaro reaction 5)Hoffman degradation

4]Start with (methyl magnisum chloride) to prepare the following compounds: {15point}

- 1)Carboxylic acid 2)Secondary alcohol 3)Alkane

5] Complet the following equation: {15 point }





Answer the following questions;

Q1: (20 degree)

- a) Write about; collision frequency, collisionless plasma, plasma quasi-neutral,
b) Clarify the meaning of the Debye length, plasma frequency, conditions for plasma existence.

Q2: (15 degree)

Write in brief the continuity equation, momentum equation, Poisson's equation for cold magnetized plasma.

Q3: (20 degree)

Calculate the dispersion relation for warm electron plasma in the case of equilibrium ions.

Q4: (15 degree)

Plasma discharges are generally created in closed discharge vessels using interior electrodes; write in brief about two methods of plasma discharge.

The End of exam

With my best wishes,

Dr. Atef Elbendary



+ USE A PEN, NOT A PENCIL.

+ QUESTIONS WILL BE GRADED ON BOTH HOW CORRECT AND HOW COMPLETE YOUR ANSWER IS.

Answer the following questions (total marks 70)

Question1 (20 Marks)

- a) Draw the structure of anti-parallel sheets of these amino acids sequences, showing the covalent and non-covalent interaction possible

Cys- Met- Ile-Trp- Ser- Lys- Glu

Gly- leu- Asp- Tyr- Gln- Val- Cys

- b) What will be the product when the second sheet reacts with enzyme carboxypeptidase then hydrolyzed? What will be the product if this produced hydrolyzed amino acid reacts with acetic anhydride in acidic medium, write the expected chemical equations?

Question 2 (15 Marks)

- a) Use the following amino acids to answer the questions below: (6 Marks)

Y-M-W-Q-K-E

- Which amino acids are polar uncharged?
 - Which amino acids are non-polar?
 - Which amino acid gives an acidic solution?
 - Which amino acid gives a basic solution?
 - Which two amino acids form salt bridges between proteins?
 - Which two amino acids form covalent interaction between proteins?
- b) Write the formation reaction of the poly-peptide structure of the following showing reagents used: (2 Marks)
- R- H- N- T
- c) Draw the optical isomers for: Pro, and His? (2 marks)
- d) Explain what does it mean that (isoelectric point) IP value of Cysteine acid is 8.18? Draw the structure at this point? What is the application method depends on this phenomenon? (3 Marks)



+ USE A PEN, NOT A PENCIL.

+ QUESTIONS WILL BE GRADED ON BOTH HOW CORRECT AND HOW COMPLETE YOUR ANSWER IS.

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- d) Explain what does it mean that (isoelectric point) IP value of Cysteine acid is 8.18? Draw the structure at this point? What is the application method depends on this phenomenon? (3 Marks)



- a. Its shape is interactions between secondary, tertiary, and, sometimes, quaternary structural.
- b. Its small size.
- c. the arrangement of amino acids into regular secondary structural.
- d. both a and b.

8. The genetic code is

- a. The key for the conversion of DNA nucleotide sequences into the amino acids sequences that compose proteins.
- b. The sequence of amino acids which give a certain protein.
- c. Maps that used to show the (location) of genes on a chromosome
- d. Both a and c.

9. The same amino acid can be carried by different tRNA's. (T or F)

10. Just as one amino acid may be specified by more than one codon, one codon may specify more than one amino acid. (True or False)

11. Together with proteins, rRNA

- A) provides a site for polypeptide synthesis
- B) transports amino acids to the ribosome
- C) travels to the ribosome to direct the assembly of polypeptides
- D) transcribes DNA

12. Which of the following are peptide hormones

- a. Androgens and estrogens
- b. T3 and T4
- c. Ghrelin and insulin
- d. epinephrin and dopamine

13. Which of the following is not a peptide hormone?

- A) insulin
- B) Gherlin
- C) testosterone
- D) all of the above are peptide hormones

14. Nor-epinephrine, epinephrine, and dopamine, are hormones derived from single amino acids

- a. alanine
- b. arginine
- c. tyrosine
- d. phenylalanine

- The End of exam

With our best wishes

Hanaa Mansour & Heba Sahyon



Answer the following questions, use sketches/illustration diagrams whenever possible

I- Answer the following miscellaneous questions: (15 marks)

- 1) Compare:
 - Allogenic vs. Authigenic
 - Quartzarenite vs. Arkose
 - Textural vs. compositional maturity
- 2) What happens when mud rocks undergo compaction?
- 3) Describe the forms of silica in chert
- 4) Rank the "Coal" deposits based on carbon and volatile contents
- 5) Write with illustration the main categories of limestones based on Dunham's classification

II- Correct the following sentences by replacing the underlined word (20 marks)

- 1) Folk's classification of carbonates is based mainly on texture
- 2) Rhombohedral packing is the best type of packing that exhibit higher porosity
- 3) Ooids form in lagoon environments
- 4) Dolostones are carbonate rocks consisting of 10-25% calcite
- 5) Evaporites are sedimentary rocks of clastic origin
- 6) Compaction, cementation, and dissolution are weathering processes
- 7) The term "deterital" refers to the formation of new mineral cements
- 8) Glacial sediments are typically better rounded and sorted
- 9) The vertical scale on the graphic log refer to the sediment grain size
- 10) A mineralogically mature sandstone contains large amounts of feldspars
- 11) A rock with $Q_{70}F_{25}R_{05}$ composition is termed quartzarenite
- 12) Illite is chiefly formed in hot and humid climate
- 13) Carboniferous carbonates are essentially composed of aragonite
- 14) A feldspar that is $>90\%$ $NaAlSi_3O_8$ is called Anorthite
- 15) Dunham's classification based mainly on composition
- 16) Wackestones are grain-supported limestones
- 17) Greywacke are kinds of sandstones that contains $<15\%$ matrix
- 18) Abundance of rutile & tourmaline minerals in sandstones indicate a metamorphic source
- 19) Conglomerate is a sedimentary rock usually composed of angular quartz pebbles
- 20) Chlorite is a swelling type of clay minerals that can be used as mudpacks

III- Fill in the spaces: (25 marks, ONE mark for each space)

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IV- Write shortly on the following: (10 marks)

- Jasper and Flint -Peat and Sapropel -Sabkha -Continental environments

End of Questions

Good Luck

Prof. Alaa Salem



اجب عن الاسئلة الاتية :-

س ١ ادرس سطح كوشي للاجهاد و عين المركبات العمودية والمماسية للاجهاد على المستوى المار بالنقطة والمعرف بوحده المتجهات

حيث تمتد الاجهاد هي $\underline{n} = (\frac{1}{2}, \frac{1}{2}, \frac{1}{\sqrt{2}})$

$$\underline{\sigma} = \begin{pmatrix} 500 & 500 & 800 \\ 500 & 1000 & -750 \\ 800 & -750 & -300 \end{pmatrix}$$

(٢٠ درجة)

س ٢- اثبت ان اكبر قيمة للاجهاد المماسي يساوي نصف الفرق بين اكبر واصغر اجهاد رئيسي
(١٥ درجة)

س ٣ اذكر شروط التناسق الانفعالي وإذا كان متجه الازاحة لجسم مرن

$$\underline{u} = (3x^2y + 6)e_1 + (y^2 + 6z)e_2 + (6z^2 + 2yz + 10)e_3$$

عين مركبات ممتدات الانفعال والدوران ، وتحقق من شروط التناسق الانفعالي
(٢٠ درجة)

س ٤ - استنتج طاقة الجهد الانفعالي .
(١٥ درجة)

مع اطيب التمنيات بالتوفيق

المستوى الثاني - الفترة المسائية - الأربعاء ١٥/٦/٢٠١٦ م

Kafrelsheikh University
Faculty of Science



Geology Department
Second year

Final Examination in *Micropaleontology* (G213)

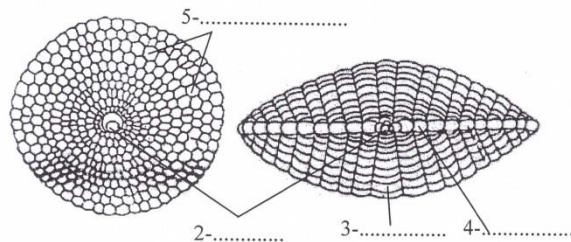
15/6/2016

70 Marks

Time: 2 hours

Answer the following questions

- 1- What are organisms considered as microfossils? (15 marks)
- 2- Write short notes on the following: (20 marks)
 - a- Genus *Orbitolina* with illustration of both its axial and transverse section (10 marks)
 - b- Wall structure of family Fusulinidae (10 marks)
- 3- Discuss the descriptive sense and types of aperture in foraminifera? (10 marks)
- 4- Briefly explain the morphological dimorphism of foraminifera. (10)
- 5- Discuss the general classification of foraminifera and refer to the divisions of Suborder Rotaliina. (10 marks)
- 6- Study the following sections and rewrite the different parts of different labels. (5 marks)



Genus: 1.....

With best wishes
Assco. Prof. Dr. Aziz Abu Shama
mabushama2002@yahoo.com



Answer the following questions:

Question 1:

Discuss the microscopic formation of p-n junction in a semiconductor material.

Question 2:

- (a) Draw and explain the mechanism of an electronic circuit, which consists of four diodes, and can be used as full-wave rectifier?
- (b) Draw the characteristic curves of ordinary diode and Zener diodes on the same figure?

Question 3:

- (a) Define the following:
Depletion layer- transistor Biasing -Breakdown voltage
- (b) Draw an electronic circuit which describes biasing a transistor in a common emitter connection

Kafr el sheikh university

Faculty of Science

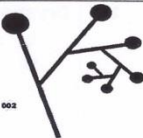
Department of Botany

Taxonomy of flowering plants

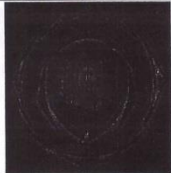
Final exam second year (Botany & Zoology students) 2015-2016

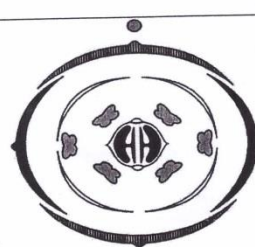
(total marks : 70)



Name:		University number:	
	Choose the correct answer of the following		
1-	Tepals are the units of In flower parts a) corolla b) perienth c) kalyx d)pestil		
2-	Pistillate flower is a) male flower b) perfect flower c) female flower d) hermaphrodite		
3-	Male and female flowers on the different plants called a) monoecious b) complete c) perfect d) dioecious		
4-	Gynoecium with free carpels is a) Synocarpous b) apocarpous c) bicarpellry d) tricarpellry		
5-	Inflorescence in the figure is a) scorpioid racem b) Helcoid cyme c) Scorpioid cyme d) a & c correct		
6-	The difference between species and genera first study by a) Elder b) Linnaeus c) Cesalpino d) Bauhin		

15-	Natural classification based on a) habit characters b) color c) phylogenetic relationship d) morphology
16-	The first separated vascular and non-vascular plants is. a) Albertus Magnus b) Pliny c) Theophrastus d) Dioscorides
17-	Apple fruit is type of a) berry fruit b) succulent fruit c) achene fruit d) false fruit
18-	Describe the place of the plant is a) habitat b) habit c) ecology d) herbarium
19-	Classification based on stamens and carpels first used by a) Pliny b) Carolus Linnaeus c) Dioscorides d) Lamarck
20-	A plant growing in saline aquatic habitats is a) Xerophytes b) Mesophytes c) Halophytes d) salinophytes
21-	Fibrous roots are commonly in a) trees and shrubs b) angiosperms c) dicots d) monocots
22-	Linear parallel venation of leaves common in family a) poaceae b) dicots c) crucifereae d) cucurbitaceae

23-	axile placentation have many ovule on swollen placenta found in family. a) Solanaceae b) Liliaceae c) Cucurbitaceae d) Poaceae
24-	Ray and disc flower represent in family a) Poaceae b) Cucurbitaceae c) Solanaceae d) Astraceae
25	Pedicellate flower means a) Pistillate flower b) Complete flower c) Subsessile flower d) All above incorrect
26-	Writ the family name and floral formula for T-5 in the figure  a) family..... b) Floral formula
27-	Underground stem types are of forms a) b) c) d)
28-	Types of flower symmetry are a)..... a)
29-	Flower insertion types are a)..... b)..... c).....
30-	Write family name, fruit type and placentation of genus <i>Cucumis sativus</i> plant a) Family b) Fruit type..... c) Placentation.....

31-	Write family name for following plants a) <i>Lactuca sativa</i> b) <i>Raphanus sativus</i> c) <i>Lens esculenta</i> d) <i>Allium cepa</i>
32-	Write the scientific names of following Arabic common names a) الفصح b) البصل c) الفول d) الجرجير
33-	Aestivation in flower parts include three main types a) b) c)
34-	complete the following of T.S. in the figure 1-order : 2-family: 3-floral formula: 
35-	Gynoecium components are a) b) c)

End of exam

Best of Luck

Prof. Soliman Haroun



Answer the following questions, use sketches/illustration diagrams whenever possible

I- Answer the following miscellaneous questions: (15 marks)

- 1) Compare:
 - Allogenic vs. Authigenic
 - Quartzarenite vs. Arkose
 - Textural vs. compositional maturity
- 2) What happens when mud rocks undergo compaction?
- 3) Describe the forms of silica in chert
- 4) Rank the "Coal" deposits based on carbon and volatile contents
- 5) Write with illustration the main categories of limestones based on Dunham's classification

II- Correct the following sentences by replacing the underlined word (20 marks)

- 1) Folk's classification of carbonates is based mainly on texture
- 2) Rhombohedral packing is the best type of packing that exhibit higher porosity
- 3) Ooids form in lagoon environments
- 4) Dolostones are carbonate rocks consisting of 10-25% calcite
- 5) Evaporites are sedimentary rocks of clastic origin
- 6) Compaction, cementation, and dissolution are weathering processes
- 7) The term "deterital" refers to the formation of new mineral cements
- 8) Glacial sediments are typically better rounded and sorted
- 9) The vertical scale on the graphic log refer to the sediment grain size
- 10) A mineralogically mature sandstone contains large amounts of feldspars
- 11) A rock with $Q_{70}F_{25}R_{05}$ composition is termed quartzarenite
- 12) Illite is chiefly formed in hot and humid climate
- 13) Carboniferous carbonates are essentially composed of aragonite
- 14) A feldspar that is $>90\%$ $NaAlSi_3O_8$ is called Anorthite
- 15) Dunham's classification based mainly on composition
- 16) Wackestones are grain-supported limestones
- 17) Greywacke are kinds of sandstones that contains $<15\%$ matrix
- 18) Abundance of rutile & tourmaline minerals in sandstones indicate a metamorphic source
- 19) Conglomerate is a sedimentary rock usually composed of angular quartz pebbles
- 20) Chlorite is a swelling type of clay minerals that can be used as mudpacks

III- Fill in the spaces: (25 marks, ONE mark for each space)

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