Tanta University
Faculty of Science
Department of Chemistry

Final Examination for Second and Third Level Students of Chemistry/ Geology, Zoology, Microbiology, Botany, Entomology. Biochemistry)

Chemical Kinetics Chemistry **Course code: CH 2240**

June 13th, 2015 **Term: Second** **Total Assessment Marks: 100** **Time Allowed: 2h**

Answer all the following questions : (20 marks for each)

1- a) Discuss the factors affecting the reaction rate?

b) An elementary reaction $2A + C \rightarrow D$, is second order in A and first order in C and the rate of this reaction is 2.5×10^{-1} M/S .when the concentration of A. C and D are all 1.0 M. What is the rate constant of this reaction?

2- a) Define the rate equation of chemical reaction and discuss how can you determine it ?

b) The following data were obtained in the decomposition of N_2O_5 in CCL_4 at 40 c^o

t (sec)	600	1200	1800	2400	3000	ω
O_2(ml)	6.30	11.40	15.53	18.90	21.70	34.75

Find out the order of this reaction and its half life time?

3- a) Enumerate the methods for determination the order of chemical reaction and discuss the differential method?

b) The half-life for radioactive disintegration of radium is 1590 Yr . calculate the decay constant .In how many years will three-quarter of the radium have undergone decay? (The decay is first order)

(انظر خلفه)

4- a) Deduce the integrated rate equation of the opposing first-order reaction

$$A \underset{K_{-1}}{\overset{K_1}{\rightleftharpoons}} B$$

b) The half-life of thermal denaturation of hemoglobin first order process has been to be 3460 Sec at 60 **c°** and at 65 **c°**. Calculate the activation energy (ΔE).

5- a) Write short notes about characteristics and classifications of catalysts and discuss the mechanism of chemical catalysis according to Arrhenius concept (Equilibrium treatment).

b) The reaction mechanism, $A + B \underset{K_{-1}}{\overset{K_1}{\rightleftharpoons}} C \xrightarrow{K_2} P$ if $k_{-1} >> k_2$. Find out the rate law and the order of this reaction.

GOOD LUCK

Prof. Dr M. Y. EL SHEKH **Prof. Dr Hosny EL-Daly**

	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF CHEMISTRY			
	EXAMINATION FOR LEVEL TWO OF STUDENTS OF CHEMISTRY/BIOCHEMISTRY; BIOCHEMISTRY			
	COURSE TITLE:	PRINCIPLE OF BIOCHEMISTRY II		COURSE CODE: BC2204
DATE:	3-6-2015	TERM: SECOND	TOTAL ASSESSMENT MARKS: 150	TIME ALLOWED: 2 HOUR

Answer all the following questions

Section (A)

I- Illustrate diagram and/ or biochemical equation to be clarify each of the following: (20 marks)

1- The exchange of CO_2 with O_2 in tissue to red blood cells. (8 marks)

2- Four principle reaction involved in renal regulation of acid base balance and the formation of ammonia in the kidney (12 marks)

II- What happened from each of the following and explain your answer (20 marks)

1- Patient suffers from dehydration and drink pure water

2- Albumin in plasma is lower than normal

3- Person has got hot bath with lack of oxygen

4- Patient suffer with diabetes mellitus with ketosis

III- 1- Compare between interstial and trans-cellular fluid; mention the 3 types of serous fluid. (5 marks)

2-What is the condition of substance injected into the body to be measure total and extracellular fluids? How can you measure the volume of intracellular fluid? (5 marks)

IV- 1- Find the molarity and osmolarity of 0.9 g % of NaCl; if you know the atomic mass of Na= 23 and Cl=35.5 (7 marks)

2-Find the total volume of extracellar fluid and its percentage to body weight for person weight 70 Kg injected *i.v.* with 100 mg inulin that dissolved in 10 ml. After 5 hours, the 400 ml of urine was collected and urine inulin level in urine was 10 mg % and plasma inulin level was 0.375 mg % (8 marks)

3-The specific volume of ammonium sulfate is 0.565 ml/g. The solubility of ammonium sulfate at 0^0C is 706 g/1000g water.(10 marks)

a) Calculate the concentration (g%) and molarity of ammonium sulfate in saturated solution at 0^0C.

b) The amount of solid ammonium sulfate that must be added to 100 ml of 40% saturated to bring 80% saturated.

See the next page

Section (B)

I- 1- Describe by chemical equations all steps in the synthesis of: (20 marks)

a- Proline b- Tryptophan (starting from Chorismate)

c- Arginine d- Cysteine

2. Clarify by chemical equation Edman degradation reaction and it's used? (5 marks)

II- 1- An unknown tetrapeptide is found to contain one equivalent each of Arg, Cys, Gly, and Leu. Edman degradation releases Gly. Trypsin gives no apparent reaction. Partial hydrolysis in acid gives several dipeptides, including CysArg and LeuCys. Identify the structure of the tetrapeptide. (Use the standard abbreviations). (7 marks)

2- If you treat the following peptide with chymotrypsin, which peptide would you expect to generate?

Lys-Gly-Phe-Thr-Tyr-Pro-Asn-Trp-Ser-Tyr-Phe (6 marks)

3- You are given a mixture that contains glutamic acid (pI = 3.2), arginine (pI = 10.8), and valine (pI = 6.0), and you subject the mixture to electrophoresis at pH 7.1. Arrange amino acids migrate to anode or cathode (6 marks)

4. Clarify the advantage of the two-dimensional electrophoresis? (6 marks)

III- 1- Mention and illustrate diagrammatically the secondary and tertiary structure of protein with examples (13 marks)

2- Mention the name and chemical structure of each of the following amino acids containing: (7 marks)

a- Guanido group b- Immidazol ring

c- Indole group d- reactive aliphatic hydroxyl

e- Aromatic ring

3- Write the structure of lysine and glutamate as it would be expected at its isoelectric point. (5 marks)

Best wishes

Prof. Ehab M. M. Ali

Dr. Thoria Abdel Aziz

	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF CHEMISTRY			
1969	EXAMINATION FOR SOPHOMORES (SECOND YEAR) STUDENTS OF BIOLOGY (SPECIAL BIOCHEM., CHEM./BIOCHEMISTRY, CHEM./ZOOLOGY AND CHEM./ENTOMOLOGY)			
	COURSE TITLE:	INSTRUMENTAL ANALYSIS (1)		COURSE CODE: CH2244
DATE:	MAY 30, 2015	TERM: SECOND	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2 HOURS

Question (I): **(25 mark)**

A. Answer the following:

1- What is a photomultiplier tube? Describe what it does and how it works.

2- Most of phosphorescence cannot be recorded in solution at room temperature, why?

B. Choose the correct answer for the following:

1) Which of the following is not active in IR absorption spectroscopy?

a) Cl_2 b) $CHCl_3$ c) CH_4 d) C_6H_6

2) Which is the preferred continuum source in visible region?

a) Tungsten filament lamp b) Hollow cathode lamp c) deuterium lamp d) none of above

3) A photon whose wavelength is 200 nm is:

a) a visible photon b) an ultraviolet photon c) an infrared photon d) a microwave photon

4) The excellent exciting light source used in the atomic absorption spectroscopy is:

a) low pressure lamp b) hollow cathode lamp c) Xenon lamp d) tungsten-halogen lamp

5) Fluorescence occurs within:

a) 10 s b) 10 ms c) 10 μs d) 10 ns

Question (II): **(25 mark)**

Answer the following:

1- List the following in order of increasing energy and wavelength: x-rays, infrared light, visible light, radio waves, and ultraviolet light.

2- What are an absorption filter and a monochromator?

3- Explain the energy transitions caused by UV-VIS light absorption.

4- Describe two light sources used for UV-VIS spectrophotometry.

Question (III): **(25 marks)**

A. Discuss briefly on each of the following:

1- Hock's law and draw three examples of IR absorption modes.

2- Two applications of UV-VIS spectrophotometry?

3- Steps of atomization in the flame of atomic absorption spectroscopy.

4- Variation of fluorescence intensity with concentration.

Question (IV): **(25 marks)**

Draw the following:

b) Block diagram showing all the components of a basic spectrophotometer.

c) Energy transitions involved in fluorescence and phosphorescence.

B. Answer the following problem:

What is the absorbance given that the molar absorptivity is 2.30×10^{4} $L.mol^{-1}.cm^{-1}$, the pathlength is 0.05 cm, and the concentration is 0.0000453 M?

Good Luck

Examiners	Prof. Dr. Mohamad Mohamad Ayad Dr. Nagy Labieb Kamal

	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF BOTANY			
	EXAMINATION FOR SOPHOMORES (CHEMISTRY BIOCHEMISTRY AND SPECIAL BIOCHEMISTRY)			
	COURSE TITLE:	General microbiology		COURSE CODE:MB 2240
DATE:25-5-2015	JUNE 2015	TERM: SECOND	TOTAL ASSESSMENT MARKS: 150	TIME ALLOWED: 2 HOURS

Answer the following questions

First Part: Mycology By:Prof.Dr.Sussan El-Soah Marks: 75 ; Time: 60 min.

1-Complete the following sentences (write the whole sentence): (15 Marks)

a- Class teliomycetes divided into two orders; order.....like....fungi, order.....like...fungi.

b- Class discomycetes divided into two orders; order .....their asci are ..., order ..... their asci are.....

c-Fungus *Puccinia graminis* have two stages on barberry plant ;.....stage which carrying.....spores , ... stage which carrying.....spores.

2-Explain briefly and drawing life cycle of *Rhizopus stolonifer* (25 Marks)

3- a- With label diagram discus species of family peronosporales (20 Marks)

b- Explain and drawing asexual reproduction only of fungus *Saprolegnia* (15 Marks)

Second Part: Bacteriology By: Dr.Nanis Allam Marks: 75 ; Time: 60 min.

1-Complete the following: (10 marks)

b- Single specific origin of DNA replication in bacteria called.....

c- b- The Proteobacteria are Gram ....and subdivided into 5 clades: ....,....,...,...,...

d- c-Sulfur bacteria belong to .....and called .....

e- d- Clostridium tetani causes.....

2-Compare between the following: (20 marks)

a-Batch and continuous cultures

b- pilli and flagella

3- Detect the differences in cell wall structure between Gram +ve and Gram –ve (10 marks)

4-Detect the role of pilli in conjugation (20 marks)

5-Identify the following: chemotaxis, transformation (15 marks)

Best wishes

Examiner: Prof.Dr.Sussan El-Soah, Dr. Nanis G. Allam

	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF BOTANY			
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Best wishes

Examiner: Prof.Dr.Sussan El-Soah, Dr. Nanis G. Allam

	Tanta University Faculty of Science Chemistry Department		
	Examination for freshmen students of 2nd Level (Chemistry / Microbiology, Botany and Geology Sections)		
	Course Title	Organic 3	Course Code: CH 2214
Date:	May, 201٥	Total Asssessment Marks: 150	Time Allowed: 2 hrs

Section (A) Aliphatic II: (75 Mark)

Answer the following questions:

Question No. 1: **(25 Marks)**

a- With chemical equations, give one method to prepare each of the following:
1,3-butadiene - cinnamic acid - methyl vinyl ketone

b- Mark (√) or (X) for the following, correct the wrong one and give the reason in only one sentence:

i- Bromination of 1,4-pentadiene gives 1,4-addition product. ( )

ii- Benzaldehyde undergoes aldol condensation. ( )

iii- Free radical addition of simple alkenes goes faster than those of conjugated dienes. ( )

Question No. 2: **(25 Marks)**

With chemical equations, illustrate the following reactions:

i- Acetophenone with ethyl bromoacetate in the presence of Zn.

ii- Benzaldehyde with methyl bromide and triphenylphosphine in the presence of phenyl lithium

iii- 2-Hexenoic acid with HBr.

Question No. 3: **(25 Marks)**

With chemical equations carry out with mechanism the following conversions:

i- Propanal to 2-methyl-1-pentanol.

ii- Ethyl acetate to ethyl acetoacetate.

iii- Diethyl malonate to 2-methylbutanoic acid.

With Best Wishes

Examiner: Prof. Dr. Nasser El-Brollosy

باقى الأسئله فى ظهر الورقه

Section (B) Reaction Mechanism: (75 Mark)

(I) Complete the following equations and please write the mechanism (30 Marks):

1) Benzaldehyde + 50 % NaOH →

2) 2-Butenol + Thionyl chloride →

3) 1,2-Chlorohydrine + ^{-}OH →

4) Acrylic acid + HBr →

(II) Explain each of the following (45 Marks):

1. Trapping of an intermediate is a method for determining the reaction mechanism. (Consider the addition of Grignard reagent PhMgBr to ketene as an example).
2. Determination the mechanism of hydrolysis of ester by suitable isotope.
3. Stereo chemical studies as a method for determine the reaction mechanism. (Consider the bromination of cyclopentene as an example).
4. Stereo specific addition of bromine to maleic and fumaric acids.
5. Reaction of isobutylene with HBr gives *tert*-butyl bromide, while in the presence of peroxide, it gives isobutyl bromide.

With Best Wishes

Examiner: Dr. Atif El-Gharably

	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF CHEMISTRY			
	EXAMINATION FOR JENIOR (SECOND YEAR) STUDENTS OF CHEMISTRY BIOCHEMISTRY			
	COURSE TITLE:	CHEMISTRY OF CARBOHYDRATES AND LIPIDS		COURSE CODE: BC2202
DATE:	15-6- 2015	TERM: SECOND	TOTAL ASSESSMENT MARKS: 50	TIME ALLOWED: 1 HOUR

1) **Give short note for each of the following :** *(12 marks)*

A. Ceramide.
B. Functions of prostaglandin.
C. Waxes.
D. Saponification of triacylglycerols.

2) **Draw the structure of the following** *(15 marks)*

A. Phosphatidyl choline
B. prostaglandin
C. Fatty acid contain ($C18:1^{\Delta 9}$)
D. Cholesterol
E. Rhizochaline

3) **Complete the sentences** *(7 marks)*

A. Micelles of fatty acids in water are organized such that the ..... faces the solvent and the ..... are directed toward the interior.
B. Cardiolipin is found in .....
C. Palmitoylated protein is one type of ..... And the type of its linkage is .....
D. When 3 fatty acids are bonded to a glycerol backbone through ester bonds a .....is formed
E. Liquid oil can be changed into solid fats by .....

4) **Give an account of the following** *(16 marks)*

A. Rancidity.
B. Proteolipids.
C. Terpenes.
D. Biological functions of Triacylglycerols

With my best wishes
Dr. Mai El-Keiy

EXAMINERS	PROF.DR. AHMED SAFAAN
	DR. MAI ELKEIY

II-Carbohydrates Section:

Answer the following questions:

1-A-Explain each of the following:- (16 marks)

i- Application of HIO4 oxidation to Trehalose followed by bromine water oxidation and hydrolysis of the corresponding dialdehydes formed in products.

ii- Conversion of methylglucoside(α or β) to tetramethyl glucose.

iii-The osazone formation provides us an important tool for comparing configurations at asymmetric centers below C_2 in aldoses and ketoses.

iv-Enzymatic(Diastase)hydrolysis of amylose and amylopectine

2-A-Give the structural formulas for the following compounds:

(4 marks)

i-Glucosidoerythrose ii-Amino-α-D-glucopyranose

iii- methyl-α-D-fructopyranoside iv- Gentianose

B-Show by equations:- (15 marks)

i- The cellulases include the large number of endo- and exo-glucanases which hydrolyze β -1,4-glucosidic bonds of the cellulose chains

ii- Alpha-galactosidase is commercially used as digestive enzyme for stachyose.

iii- Biosynthesis of vitamin C

3-Discuss each of the following :- (15 marks)

i-. A specific oxidation that would convert D-galactose to D-galacturonic acid

ii-Elucidation of the lactose structure

iii-Synthesis of Salicin involves the reaction between O-acetyl -α glucosyl bromide and Salicyl alcohol.

PROF.DR. AHMED SAAFAN

TANTA UNIVERSITY
FACULTY OF SCIENCE
DEPARTMENT OF PHYSICS

EXAMINATION FOR SOPHOMORES (2ND LEVEL) STUDENTS OF CHRMISTRY/BIOCHEMISTRY & BIOCHEMISTRY

COURSE TITLE:	BIOPHYSICS		COURSE CODE:PH2292
DATE:23 30 MAI 2015	TERM: SECOND	TOTAL ASSESSMENT MARKS: 50	TIME ALLOWED: 2 HOURS

ANSWER THE FOLLWING QUSTIONS:

1- Write on: (12 mark)

a) X-ray effects on living tissues,

b) Hydrostatics,

c) Sound transitions in biomaterials.

2- Explain: (12 mark)

a) Transitions of molecules in the nerve systems,

b) Bioelectrical Potentials,

c) The vision theory.

3- Discuss: (12 mark)

a) The electromagnetic forces,

c) The effect of magnetic fields on human cells,

b) The Hearing theory.

4- Explain the applications of x- ray in medicine. (14 mark)

والله ولى التوفيق

EXAMINERS: Prof.Dr. G. FARAG & Prof. Dr. M, El Khosht

TANTA UNIVERSITY
FACULTY OF SCIENCE
DEPARTMENT OF CHEMISTRY

EXAMINATION FOR SOPHOMORES (SECOND LEVEL) STUDENTS OF CHEMISTRY / BIOLOGY SECTIONS

COURSE TITLE:	STEREOCHEMISTRY		COURSE CODE:CH 2246
DATE: 27 MAY , 2015	TERM: SECOND	TOTAL ASSESSMENT MARKS: 50	TIME ALLOWED: 2 HOURS

Answer The Following Questions :

1) **Compare between each of the following:** **(10 Marks)**

i- Stereoselective addition of cis- and trans-2,3-diphenyl-2-butene.
ii- Diastereomers and Enantiomers.
iii- Racemization via cation and anion formation

2) Describe the separation of 2-aminobutane using (R)-(-)- mandelic acid . **(7 Marks)**

3) **Mark (√) or (X) and correct the false sentences:** **(8 Marks)**

i- Mutarotation is the conversion of glucose to fructose . ( )
ii- Streching vibration of C=C of trans-stillbene is lower than that of cis-isomer. ( )
iii-Trans-isomer of 2- pentene has lower λ_{max} and very lower ε than that of cis–isomer with UV- spectra . ( )
iv- Fumaric acid readily forms with heating a cyclic anhydride while maleic acid does not give an anhydride under the same conditions. ( )
v- Any molecule with a plane of symmetry or a center of symmetry must be achiral.( )

4) Explain the synthesis of (±)-2-metyl-1-hexanol using malonic acid . **(7 Marks)**

5) The chemical shift of ethylenic proton δ_H was found experimentally to be 7.65 ppm for α- methyl cinnamic acid . What is the geometrical isomerism of the above acid ? (substituent constants for chemical shift are : $-Ph_{gem} = 1.35$, $-COOH_{cis} = 1.35$, $COOH_{trans} = 0.47$, $-CH_{3\ cis} = -0.26$, $-CH_{3\ trans} = -0.29$ ppm) . **(6 Marks)**

6)a- Draw and name the isomers of the following compounds (with comment):**(9 Marks)**
i- Aldotetrose . ii- 2,3-Dibromobutane . iii-Dimethylcyclohexane .
b- Draw the following compounds : **(3 Marks)**
i- (R)- 3-Hexanol . ii- (2S,3S)-2,3-Dichloropentane .

Examinars:

Prof.Dr. Adel Selim **Dr. Mohamed Azam**

	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF BOTANY			
	EXAMINATION FOR SOPHOMORES STUDENTS			
	COURSE TITLE:	PLANT ANATOMY		COURSE CODE: BO2206
DATE:	13-6-2014	TERM: SECOND	TOTAL ASSESSMENT MARKS:150	TIME ALLOWED: 2 HOURS

أكتب فى كل مما يأتى: (60 درجه)

1. وظائف الخلايا البارنشيميه
2. تساقط الأوراق
3. الشعيرات اللاسعه
4. العديسات
5. حلقات النمو الثانوى

وضح بالرسم فقط كل مما يأتى: (60 درجه)

1. النقر البسيطه و النقر المضفوفه
2. اشكال الخلايا الإسكلرنشيميه
3. رسم تخطيطى يوضح التغلظ الثانوى فى جذر نبات من ذوات الفلقتين
4. الأشكال المختلفه للنسيج الكولنشيمى
5. الشعيرات وحيدة الخليه و عديدة الخلايا

أكمل كل مما يأتى: (30 درجه)

1. يتكون نسيج اللحاء من .....و.....و.....و.....
2. يوجد السيوبرين فى جدر خلايا .....بينما الكيوتين فى جدر خلايا.....
3. يمكن تصنيف المرستيمات على أساس موضعها من جسم النبات إلى.....و.....و.....
4. يتكون البريدرم من ثلاثة أجزاء هى.....و.....و.....
5. تتميز النباتات الجفافية بصفات خاصه للتركيب التشريحى منها.....و.....و.....

Dr. Shaimaa Abd El-Hameed

TANTA UNIVERSITY, FACULTY OF SCIENCE, BOTANY DEPARTMENT			
Final Examination for second level Students (special Botany)			
Course title:	VIROLOGY		Course Code: MB2232
DATE: 1, JUNE, 2015	TERM: SECONDS	TOTAL ASSESSMENT MARKS: 100	Time Allowed: 2 hours

Answer the following questions:-

Q1: Discuss: **[30 marks]**

The replication cycle of a bacterial virus

Q2: **[30 marks]**

Give the possible effects that animal viruses may have on cells they infect.

Q3: Complete the following: **[20 marks]**

a- Nucleocapsid is .....

b- The virus envelop consists of .....and .....

c- The plant viruses contain .....RNA , while animal viruses contain ..... and .....RNA .

d- Antigenic shift is a phenomenon in which .....

Q4: Explain the black assay method for bacterial virus quantification.

[20 marks]

Best wishes

Examiner: Prof. Dr. Wagih El-Shouny

ميكروبات

2

TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF ZOOLOGY			
EXAMINATION FOR SOPHOMORES (SECOND YEAR) STUDENTS BOT& MICRO			
COURSE TITLE:	Principals of Molecular Genetics		COURSE CODE: Bo 2222
DATE: 13 JUNE, 2008	TERM: SECOND	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED:2 HOURS

Answer the following questions:

Question 1:

Wright shortly on the following with labeled drawings if possible **(35marks)**

1) Types of RNA.
2) Initiation of transcription.
3) Base excision repair.
4) Watson and Crick model.
5) Replication process.

Question 2:

Comlete the following sentences: **(30 marks)**

1) Insertion is ....while deletion is ....
2) Transcription factors are ....
3) The first amino acid to be added in prokaryotic protein synthesis is................
4) Photo reactivation is carried out by an enzyme called..
5) The genetic code is ....
6) The sigma factor is not firmly bound to the other subunits because ....
7) Wobble is the ....
8) Anticodon is a......................................specifying.........................carried on................
9) RNA processing is ....
10) Okazaky fragments are formed on ....strand.

Question 3:

Discuss each of the following with labeled drawings if possible: **(35 marks)**

- Differences protein synthesis between prokaryotes and eukaryotes.
- Nucleotide Excision repair
- Point mutation.
- Polypeptide chain termination.
- DNA foot printing.
- Differences between DNA replication and RNA transcription

مع تمنياتي بالتوفيق   د حنان ابراهيم سيد احمد

بنات

	Tanta University Faculty of Science Department of Botany			
	EXAMINATION for level 2 Students of Special Botany			
	Course title:	Economic Botany		Course Code:BO2208
Date:10/6	2015	Term: second	Total assessment Marks: 100	Time ALLOWED:2 ours

السؤال الأول: (20 درجة)

1- ضع علامة (√) و (X) أمام العبارات التالية مع تصحيح الخطأ إن وجد للكلمات التي تحتها خط:

1- يستخرج زيت الحار من نبات ال *Viola edorata*.....( )
2- يستخرج مادة المطاط من نبات ال *Matricaria chamomilla*.....( )
3- يعتبر نبات ال *Linum* من الأخشاب الجامدة.....( )
4- تصنع حبال الكابلات البحرية من نبات ال *Juncus spp*.....( )
5- يستخرج مادة الكهرمان من نبات ال *Cannabis sativa*..... .....( )
6- يستخدم زيت نبات ال *Hedeoma spp*.في صناعة الصابون البحري.....( )
7- يستخرج مادة العنصل من نبات ال *Salvia afficinalis*.....( )
8- يستخرج زيت الشلجم من نبات ال *Eucalyptus spp*.....( )
9- يستخدم نبات ال *Glycorrhiza spp*..في علاج الإسهال.....( )
10- يستخرج الكافيين من نبات ال *Camellia sinensis*..... .....( )

2- السؤال الثاني: أكمل: (20 درجات)

1- من أهم أنواع الراتنجات الجامدة .....و.....و.....و.....
2- يستخدم مادة كبابة في علاج .....و.....و.....
3- يستخدم عقار الايميتين في .....و.....و.....
4- يستخدم عقار الكورارين في .....و.....و.....
5- من أهم استعمالات الفلين .....و.....و.....و.....و.....و.....
6- يستخدم عقار اللوبيولين في .....و.....و.....
7- من فوائد الزيوت الطيارة.....و.....و.....و.....
8- يستخدم عقار كولانين في .....و.....و.....
9- لعلاج حالات الإمساك يستخدم نبات.....و.....و.....و.....و.....
10- أهم المواد الفعالة في النباتات الطبية والعطرية هي.....و.....و.....و.....و.....

3-السؤال الثالث: (25 درجة)

1- اختر من (أ) ما يناسب من (ب) مع كتابة الاسم الدارج والجزء المستخدم للنباتات في (أ): (15 درجة)

(أ) *1- Hedeoma spp – 2-Atropa belladonna – 3-Eucalyptus globulus – 4-Glycorrhiza globra – 5-Colchicum spp*

(ب) 1- استرخاء في العضلات 2- الالتهابات الجلدية الفطرية 3- طارد للحشرات 4- إحداث تمدد إنسان العين
5-اضطرابات الأنف والحنجرة 6- قرحة المعدة 7- النقرس 8- الديزونتاريا الأميبية

2- ما المقصود ب: (10 درجات)

الكهرمان – الراتنجات – الصمغ البريطاني – الأحبار الدباغية – الزيوت نصف الجافة

4- السؤال الرابع: تكلم فيما يلي: (35 درجة)

1- اذكر (في جدول) اسم النبات الدارج والاسم العلمي (اللاتيني) والجزء المستخرج منه المادة الفعالة وثلاث (3) أهمية اقتصادية للمواد الفعالة الآتية: الفلين – الرايون – الراتنجات – النارولي (20 درجة)

2- اذكر مراحل تصنيع المطاط مع ذكر أهم استخداماته واهم النباتات المنتجة للمطاط. (15 درجة)

انتهت الأسئلة

مع تمنياتي لكم بالتوفيق والنجاح

أستاذ المادة: أ.د.محمد أحمد البحيري

نباتى

TANTA UNIVERSITY
FACULTY OF SCIENCE
DEPARTMENT OF BOTANY

EXAMINATION FOR SOPHOMORES STUDENTS

	COURSE TITLE:	PLANT ANATOMY		COURSE CODE: BO2206
DATE:	13-6-2014	TERM: SECOND	TOTAL ASSESSMENT MARKS:150	TIME ALLOWED: 2 HOURS

أكتب فى كل مما يأتى: (60 درجه)

1. وظائف الخلايا البارنشيميه
2. تساقط الأوراق
3. الشعيرات اللاسعه
4. العديسات
5. حلقات النمو الثانوى

وضح بالرسم فقط كل مما يأتى: (60 درجه)

1. النقر البسيطه و النقر المضفوفه
2. اشكال الخلايا الإسكلرنشيميه
3. رسم تخطيطى يوضح التغلظ الثانوى فى جذر نبات من ذوات الفلقتين
4. الأشكال المختلفه للنسيج الكولنشيمى
5. الشعيرات وحيدة الخليه و عديدة الخلايا

أكمل كل مما يأتى: (30 درجه)

1. يتكون نسيج اللحاء من .....و.....و.....و.....
2. يوجد السيوبرين فى جدر خلايا .....بينما الكيوتين فى جدر خلايا.....
3. يمكن تصنيف المرستيمات على أساس موضعها من جسم النبات إلى.....و.....و.....
4. يتكون البريدرم من ثلاثة أجزاء هى.....و.....و.....
5. تتميز النباتات الجفافيه بصفاتٌ خاصه للتركيب التشريحى منها.....و.....و.....

Dr. Shaimaa Abd El-Hameed

	TANTA UNIVERSITY, FACULTY OF SCIENCE, BOTANY DEPARTMENT		
	Final Examination for second level Students (special Botany)		
Course title:	VIROLOGY		Course Code: MB2232
DATE: 1, JUNE, 2015	TERM: SECONDS	TOTAL ASSESSMENT MARKS: 100	Time Allowed: 2 hours

Answer the following questions:-

Q1: Discuss: **[30 marks]**

The replication cycle of a bacterial virus

Q2: **[30 marks]**

Give the possible effects that animal viruses may have on cells they infect.

Q3: Complete the following: **[20 marks]**

a- Nucleocapsid is .....

b- The virus envelop consists of .....and .....

c- The plant viruses contain .....RNA , while animal viruses contain ..... and .....RNA .

d- Antigenic shift is a phenomenon in which .....

Q4: Explain the black assay method for bacterial virus quantification.

[20 marks]

Best wishes

Examiner: Prof. Dr. Wagih El-Shouny

بنات

1969	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF BOTANY			
	THEORITICAL FINAL EXAMINATION FOR SOPHOMORES (2ND YEAR) STUDENTS OF SPECIAL BOTANY PROGRAMME			
	COURSE TITLE: PHYCOLOGY			COURSE CODE:BO2204
DATE:	6JUNE, 2015	TERM: 2	TOTAL ASSESSMENT MARKS: 150	TIME ALLOWED: 2 HOURS

Qestion 1: Complete the following scientific sentences: (30 marks)

1 - Cell wall of Cyanobacteria consists of …….. and ……

2- According to aquatic habitat, the algae are classified into……and……

3- Heterocysts are classified according to position into …….. and ……

4- The dominant pigment in Cyanobacteria is ……..while in Xanthophyta is……

5- The function of eye spot in *Euglena* is……..while the contractile vacuoles are for……

6 - The false branching is present in …….. while true branching is present in……

7 - The life cycles in algae are differentiated into ……..and……

8- The cell wall of Chlorophyta is composed of……..while of Phaeophyta is composed of……

9- Among the common vegetative forms of green algae are ……..and……

10- The zoospore is……..while aplanospore is……

11- The polyhedral stage is formed in the life cycle of…… while palmella stage is in……life cycle.

12- The branching of *Cladophora* is……, while in *Ulothrix* is……

13- Sexual reproduction in *Spirogyra* is through……,while in *Chlamydomonas* is through……

14- In red algae the cells are connected through……and the reserved food is……

15- The plant body of *Chara* consists of two types of branching……and……

Question 2: Put true √ or false X sign then correct the false phrases (30 marks):

1 - False branching is characteristic of *Stigonema* ( )……

2 - Cyanobacteria reproduce by sexual reproduction ( )……

3 - Planktons mean the algae which can live on the rocks ( )……

4 - *Euglena* reproduces by isogametes ( )……

5 – The life cycle of diatoms are haploid ( )……

6 - Auxospores formation are exhibited by *Gloeocapsa* ( )……

7 - All members of cyanobacteria can fix atmospheric nitrogen ( )……

8- Seaweeds are common in all marine habitats ( )……

9- Alginate is a cell wall component of brown algae ( )……

10- *Chlorella* reproduce asexually by meiospores ( )……

11- Rhodophyta exhibited a wide variation in colors ( )……

12- *Ectocarpus* life cycle is diploid ( )……

13- Asexual reproduction of *Chladophora* is by zoospores ( )……

14- Calcium carbonates precipitate on green algae cell walls ( )……

15- The air bladders cause *Fucus* floating ( )……

إنظر خلف الصفحة

Question 3: Choose the correct answer from the followings (30 marks):

1 - Oil chrysolaminarin and volutin are food reserves of (desmids - diatoms - green algae- brown algae).

2 - Algae live in association with fungi in (plant- archegoniate- lichens - nothing).

3 - Euglenophyta are classified as (animals - plants- animals and plants - fungi).

4 - Myxophyceae members are characterized by (motile stages -sexual reproduction - incipient nucleus).

5 - Plastids are absent in the class (Chlorophyceae- Phaeophyceae- Bacillariophyceae- Myxophyceae).

6 - Food reserves of Euglenoids consists of (starch- glycogen- paramylon- oils).

7 - Algae means (seaweeds- lichens- archegoniate- lower plants).

8- *Hydrodictyon* cells arranged as (triangular - tetragonal- hexagonal- octagonal).

9- The growth of *Laminaria* thallus is (apical - intercalary- basal- laterally).

10- *Chara* vegetative reproduction is by (bulbils- amylum stars- 2ry protonema- all mentioned).

11- Generally, the life cycle in Rhodophyta is (haploid- diploid- complex- others).

12- Chantransia-stage is present in the life cycle of (*Porphyry- Chondorus- Batrachospermum- Ulva).*

13- The sexual reproduction in *Volvox* is (heterogamous - isogamous- oogamous- others).

14- The dominant pigment in Phaeophyta is (biliproteins- chlorophyle- fucoxanthins- carotenes).

15- The reserved food in Chlorophyta is (paramylon- oils- starch- mannitol).

Question 4: Write short notes on the followings, illustrate with drawings if present (30 marks):

1- Features of similarity and dissimilarity between *Nostoc* and *Oscillatoria.*

2- The advanced structure of red algae reproductive organs.

3- *Volvox* colony is considered an ideal coenobium.

4- Features of similarity and dissimilarity between Cyanophyta and Rhodophyta.

5- Clump- formation in *Ectocarpus* life cycle.

6 - The anatomical development in *Laminaria* thallus structure.

Question 5: Answer three only from the followings (30 marks):

1- With a full drawing representation, illustrate the life cycle of *Vaucheria.*

2- Define the alternation of generations phenomenon in algae. Illustrate with a complete labeled drawings only the life cycle of *Fucus*. Explain if that phenomenon is present in this life cycle.

3-Choose one only from the following Chlorophyta members: *Hydrodictyon, Spirogyra, Ulothrix, Cladophora* or *Chara,* then draw its life cycle with a complete labeled drawing.

4- *Polysiphonia* is a red alga characterized by a complex life cycle, draw a full labeled diagrammatic representation of its life cycle. What are the different phases of the cycle and its type.

With our best wishes .....#

Examiners:

Prof. Dr. Atef Mohamed Abo-Shady	**Dr. Gehan A. Ismail**

ثاني

TANTA UNIVERSITY
FACULTY OF SCIENCE
BOTANY DEPARTMENT

امتحان الفصل الدراسى الثاني للفرقة الثانية نبات خاص

Course Title:	Crop plants		Course Code: Bo 2210
25, May, 2015	Term: Second	Total assessment marks: 100	Time Allowed: 2hour

السؤال الأول: ضع علامة (√) أو (x) أمام العبارات التالية، مع تصويب الخطأ (٣٠ **درجة**)

١- من أضرار الحشائش نقل عدوى بعض الآفات ( )

٢- كلما زادت الرطوبة في الجو كلما زاد الاحتياج المائي للنبات حيث يزيد معدل النتح ( )

٣- المحاصيل النيلية هي التي تزرع في أواخر الشتاء وخلال فصل الربيع ( )

٤- تعد التربة الصفراء هي الأنسب للزراعة ( )

٥- محاصيل الغلال هى المحاصيل التى تزرع لكى تستهلك وهى خضراء أو محفوظة فى غذاء الحيوانات ( )

٦- لا يؤثر الضوء على نمو المحاصيل ( )

السؤال الثاني: ناقش فائدة اتباع الدورات الزراعية في تنظيم عمل المزرعة (١٠ **درجات**)

السؤال الثالث: وضح ما يأتي (٣٠ **درجة**)

١- أهمية الماء لنمو المحاصيل (١٠ درجات)

٢- خصائص التربة الطينية وكيفية تحسينها لكي تصبح أكثر ملاءمة للزراعة (١٠ درجات)

٣- أسباب تواجد الأراضي القلوية (١٠ درجات)

السؤال الرابع: (٣٠ **درجة**)

١- ماهي العوامل التي تصمم الدورات الزراعية على أساسها (اذكر ٣ منها) (١٠ درجات)

٢- الصفات المميزة للحشائش (اذكر ٤ منها) (١٠ درجات)

٣- الشروط التي يجب توافرها في التقاوي الجيدة (اذكر ٣ منها) (١٠ درجات)

Examiners	Prof. Alaa AbuZeid	Dr. Dalia Abd El-Azeem Abd El-Azeem Ahmed
	Prof. Awatef Mohsen	