



المستوى الثالث كيمياء / ميكرو

الفلورا المصرية ✓

٤



TANTA UNIVERSITY
FACULTY OF SCIENCE
BOTANY DEPARTMENT



امتحان الفصل الدراسي الثاني للمستوى الثالث كيمياء/نبات

Course Title:	Egyptian Flora	Course Code: Bo 3206
June 6, 2017	Term: Second	Total assessment marks: 100
		Time Allowed: 2hour

السؤال الأول: ضع علامة (✓) أو علامة (X) مع تصويب الخطأ (٣٠ درجة)

- ١- من خصائص النباتات المصرية كونها غنية بالنباتات الحولية () (٦ درجات)
- ٢- بدأت التسمية الثنائية للنباتات في القرن ١٧ على يد لينيس () (٦ درجات)
- ٣- تعد منطقة البحر الأحمر غنية بالفلورة () (٦ درجات)
- ٤- يوجد جبل علبة بالصحراء الشرقية () (٦ درجات)
- ٥- المؤلف العام يشتمل على سجل بالخصائص التقسيمية لنباتات منطقة جغرافية معينة () (٦ درجات)

السؤال الثاني: أكمل العبارات التالية (٣٠ درجة)

- ١- توجد بحيرة البردويل في
- ٢- تنقسم النباتات الملحية إلى
- ٣- من البيئات المميزة للمناطق الصحراوية
- ٤- يوجد نوعان من المكابس هي
- ٥- من أنواع المفاتيح التعريفية

السؤال الثالث: ناقش كلا من: (٣٠ درجة)

- ١- البيئات المختلفة في منطقة دلتا النيل (أذكر ٥ بيئات فقط) (١٠ درجات)
- ٢- واحة سيوة وواحة وداي النطرون (١٠ درجات)
- ٣- منطقة جبال علبة (١٠ درجات)

السؤال الرابع: أجب واحدا من الأسئلة التالية (١٠ درجات)

- ١- قمّت برحلة إلى مرسى مطروح، وقمت بتجميع عينات نباتية، كانت احداها عينة عصيرية وضح كيفية عمل عينة معشبية منها
- ٢- خصائص الفلورة المصرية

تمنياتي بالتوفيق والنجاح

Examiners: Dr. Ahmed Sharaf El-Din and Dr. Dalia Abd El-Azeem Ahmed

لجنة المصححين أ.د. أحمد شرف الدين عبدالوهاب - أ.د. داليا عبد العظيم أحمد - أ.د. عاطف أبو شادي



Tanta University
Faculty of Science
Department of Chemistry

Final exam. for Juniors students of doubled branches

Course title:	Molecular Photochemistry	Course Code: CH3244
Date: May 30, 2017	Term: second	Total assessment Marks: 50
		Time allowed: 2 H

Answer the following questions

- 1) Differentiate between each of the following: (16 marks)
- El-Sayed's rule and Kasha's rule
 - E- and P- types of delayed fluorescence
 - 1,2 addition and 1,2-1,4 addition of photodimerization of olefinic compounds.
 - Radiative natural and observed fluorescence lifetimes.
- 2) Draw each of the following: (12 marks)
- Triplet-triplet mechanism of energy transfer action according to the Dexter mechanism.
 - Possible transitions causing energy transfer processes in Biacety, Pyrene and Naphtalene system.
 - Singlet-singlet mechanism of energy transfer action according to Förster mechanism.
 - Jablonski Diagram for electronic transitions between ground and excited states.
- 3) Write down the following statements. Show whether each of the following statements is true or false, if false, please, write down the true. (14 marks)
- The energy gap value, $\Delta E(T_1 \sim S_0)$ is a factor which determines the relative magnitudes of k_f and k_{isc} ($S_1 \sim T_1$).
 - Each decay process represented by k_f , k_{ic} , k_r and k_{et} is bimolecular rate constant.
 - Promotion of an electron to an antibonding molecular orbital upon excitation takes about ($10^{-10} - 10^{-12}$ s), which is very quick compared to the characteristic time for molecular vibrations (10^{-15} s).
 - The rate of fluorescence can be enhanced relative to the other processes by using heavy atoms.
 - Excimers are dimers in the excited state. They are formed by collision between two excited molecules.
 - Intersystem crossing (ISC) is an iso-energetic radiationless transition between two electronic states of same multiplicity.
 - In Jablonski diagram, the triplet state($\uparrow\downarrow$) is always of lower energy than the energy of the corresponding singlet state($\uparrow\uparrow$).
- 4) Give short notes on the following: (8 marks)
- Quantum yield of fluorescence and of phosphorescence, Φ_f , Φ_p .
 - Wigner spin conservation rule.

Good Luck

The examiners : 1. Prof. Dr. Samy el-Dally
2. Prof. Dr. Shakir T. Abdel-Halim



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Faculty of Science
Department of Chemistry

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	TANTA UNIVERSITY, FACULTY OF SCIENCE, DEPARTMENT OF BOTANY			
	FINAL EXAMINATION FOR THE THIRD YEAR (CHEMISTRY / MICROBIOLOGY)			
COURSE TITLE	SOIL AND WATER MICROBIOLOGY	COURSE CODE: MB3202		
DATE: 6/6/2017	JUNE, 2017	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2 HOURS	

Answer the following question

1. Compare between the following

(20 marks)

1. Endomycorrhiza and Ectomycorrhiza
2. Protocooperation and mutualism
3. BOD and COD
4. Fecal and non-fecal coliform

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2. Mention the following

(25 marks)

1. The negative associations between soil microorganisms
2. Advantages of the MF Technique.
3. Regular pattern of distribution of soil microorganisms
4. The benefit of both fungi and higher plant from mutualistic association between them.
5. Disinfectants and potential Health effects from Ingestion of Water

3. Check \checkmark or X for the following sentences

(10 marks)

1. A drinking-water distribution system provides a habitat for microorganisms ()
2. The surface layer of soil contains lower number of microorganisms ()
3. Soil air serves as a solvent and carrier of nutrients ()
4. Autotrophs are "primary consumer ()
5. Protozoa add organic matter to soil when die and thus increase the amount of organic carbon ()
6. The water is protected from recontamination during distribution by free chlorine ()
7. The presence of combined chlorine in water is correlated with the absence of microbes ()
8. Industrial sewage represents an excellent medium in which to grow bacteria and microbes ()
9. Water-based diseases include dengue and malaria ()
10. Water-washed diseases is directly related to water supply or quality ()

4. Chose the correct answer

(20 marks)

1. Which of the following in an example of Water-related diseases
 - a) Cholera
 - b) typhoid
 - c) dysentery
 - d) All of these
2. b) Decrease in light and oxygen availability in water source caused by
 - a) Agriculture
 - b) Sewage
 - c) Shipping
 - d) All of these

3. The Positive associations between soil microorganisms are
 - a) The amount of oxygen put back into the system by photosynthesizing plants
 - b) The amount of oxygen taken out of the system by respiring and decaying organisms
 - c) All of the above
 - d) Not all of the above
4. The absence of disease-causing organisms is correlated with the presence of
 - a) Residual chlorine
 - b) Free chlorine
 - c) Combined chlorine
 - d) none of the above
5. The most common pathogens in surface water are Cryptosporidium and Gardia Lamblia, belongs to
 - a) Fungi
 - b) Viruses
 - c) Bacteria
 - d) None of the above
6. Microbial examination of water by using the indicators microorganisms is
 - a) Time consuming
 - b) Expensive
 - c) Potentially dangerous to lab personnel
 - d) None of the above
7. Different soil microorganisms, having soil binding properties are graded in the order as
 - a) fungi > Actinomycetes > yeasts
 - b) fungi > yeasts > Actinomycetes
 - c) Actinomycetes > fungi > yeasts
 - d) yeast > Actinomycetes > fungi
8. Purification of water containing the following steps in the order as
 - a) Aeration, Flocculation, Sedimentation, Filtration and Disinfection
 - b) Aeration, Filtration, Sedimentation, Flocculation and Disinfection
 - c) Aeration, Sedimentation, Flocculation, Filtration and Disinfection
9. Nutrients and Pesticides are pollutants resulting from
 - a) Agriculture
 - b) Aquaculture
 - c) Sewage discharge
 - d) None of the above
10. Microorganisms may be introduced into the distribution system during
 - a) Drilling
 - b) servicing
 - c) repairing
 - d) All of these

5. Give reason(s) for

(25 marks)

- 1- Humus is important to soil characters
- 2- Chlorine is more favorable as disinfectant than ozone and UV.
- 3- MF technique is not suitable for water samples which contain many impurities
- 4- The most commonly used indicator microorganisms are coliform bacteria
- 5- MPN technique is not suitable for highly polluted water samples

With my best wishes

EXAMINER	MOHAMED YASER BEDAIWY
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TANTA UNIVERSITY
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DEPARTMENT OF BOTANY

EXAMINATION FOR THIRD YEAR STUDENTS OF MICROBIOLOGY-SPECIAL

COURSE TITLE:	ENERGY BIOCONVERSIONS & PHOTOSYNTHESIS	COURSE CODE: 3220	
DATE: 1-6-2017	TERM: SECOND	TOTAL ASSESSMENT MARKS: 150	TIME ALLOWED: 2 HOURS

Q1. Define (8 marks; 2 each): uphill reaction, pheophytin, reaction center, quantum yield of photosynthesis

Q2. Choose the letter that shows the right answer (10 Marks; 1 each):

- PSI is associated to two proteins called
(a) Q_A & Q_B (b) PsaA & PsaC (c) D_1 & D_2 (d) PsaA & PsaB
- Total energy of the biological system is called
(a) enthalpy (b) entropy (c) free energy (d) usable energy
- Energy transfer in the antenna pigment complexes is
(a) small (b) reversible (c) not efficient (d) irreversible
- PSII & PSI are located at
(a) same protein (b) separately (c) chloroplast envelope (d) ATP synthase
- Plastocyanin transfers electrons from PSII to
(a) P_{700} (b) pheophytin (c) Q_A (d) Q_B
- Chl a fluorescence is seen at (a) blue (b) red (c) yellow (d) green
- If ΔG is positive, free energy is
(a) released (b) required (c) consumed (d) constant
- Excited Chl^* can return to its ground state in a process called
(a) fluorescence (b) energy transfer (c) heat (d) all correct
- In non-photochemical quenching, excess light energy is dissipated as
(a) uphill reaction (b) Calvin cycle (c) heat (d) PSI hydrolysis
- Pheophytin accepts electrons from
(a) vitamin K_1 (b) P_{700} (c) ATP synthase (d) P_{680}

Q3. Compare between (24 Marks; 8 each):

1. Structure of $Cytb_6f$ complex **and** the electron carrier plastocyanin
2. Components of reaction centers **and** light antenna complexes
3. Importance of Hill reaction **and** red drop & Emerson enhancement

Q4. Complete the following statements (34 Marks; 2 each):

1. In Q-cycle, transfer of $2 e^-$ to Q_B reduces it to ..., it takes $2H^+$ from ... yielding
2. The first photochemical reaction occurs when e^- is transferred from to
3. Exposure of chloroplast to excess energy causes
4. Energy transfer is a process while electron transfer is a process
5. protein is the main target of damage of photoinhibition
6. Photolysis of 2 water molecules produces, and
7. In thylakoid membranes, diffusion of protons from to causes the synthesis of one ATP by a complex called, in a process called

Q5. Answer the following question:

1. How C₄ plants avoid photorespiration?
2. What are the possible fates of triose phosphates following their synthesis by the Calvin cycle?
3. In the processing of 2-phosphoglycolate, what are the significant steps that occur in the mitochondrion and the peroxisome? Where is ATP used? What is 2-phosphoglycolate processed into?

Q6. Complete the following sentences:

1. The carboxylation in C₄ plants is catalyzed by.....and occurs in.....
2. Light compensation point is
3. The term green house effect refers to.....
4. In Calvin cycle, 3-phosphoglycerate is reduced to.....through the use of.....generated by.....

Best Wishes

Prof. Dr. Fatma Elshintinawy
Prof. Dr. Soad Elfiky

Handwritten signature and date:
20/10/2025