

Mansoura University  
Faculty of Science  
Botany Department  
El-Mansoura - Egypt



جامعة المنصورة  
كلية العلوم  
قسم النبات  
المنصورة - مصر

Final Examination in Botany - Second Term: Jun. 2010

Educational Year: Third Level

Program (Branch): Biology

Subject: ES 326

Course(s): Producing ecosystem and pollen grain

Time: 2 hrs

Date: 11/6/2010

Full mark: 60

Question mark: 20

Answer the following questions:

### Question [1]

(A) Sign each of the following sentences by true (✓) or false (×) (12 marks - one mark each)

1. CO<sub>2</sub> considered as the major gas in the atmosphere.
2. A bottle of sea water may be considered as ecosystem.
3. Carbon dioxide has global warming potential higher than methane.
4. Ozone layer reflects the UV radiation at the stratosphere.
5. Most of the world's great fisheries are concentrated in estuaries.
6. There are interactions between the four compartments of the ecosystem.
7. The total industrial nitrogen fixation today is about equal to global natural nitrogen fixation.
8. Ozone layer protects the living organism from UV-C.
9. Ecosystems were providing people with a variety of services such as soil stabilization and climate regulation.
10. The global sulfur cycle lacks a significant atmospheric component.
11. CO<sub>2</sub> removed from the atmosphere during photosynthesis and returning it to the atmosphere through metabolism.
12. By increasing the area of ecosystem the net production increases absolutely.

(B) Define four terms of the following: (8 marks - 2 mark each)

1. Ecosystem
2. Eutrophication
3. Global warming
4. Upwelling zones
5. Acid rains

### Question [2]

(A) Complete the following sentences? (10 marks - one mark each)

1. The cycling of water through the four compartments of the physical environment is known as the .....
2. All organisms depend on inputs of ....., ....., and ..... for their metabolism and growth.
3. Ozone layer has been seriously damaged by .....
4. Human activities ..... energy flows through the compartments of the global ecosystem.
5. Biogeochemical cycle is defined as .....
6. Global warming responsible for many problems such as ....., ..... & .....

(B) Write short notes on the following: (10 marks)

1. How can you differentiate between monocots and dicots on the base of pollen morphology? (4 marks)
2. The principal function of the calyx for both flower and fruit. (4 marks)
3. Echininate exine. (2 marks)

### Question [3]

(A) Compare between each of the following: (11 marks)

1. Subfamilies under family Labiatae. (5 marks)
2. The exine and the intine of pollen grain (6 marks)

(B) Define (9 marks)

1. Didynamous stamen (2½ marks)
2. Sporothেকে (2½ marks)
3. NPC-system of pollen grain and explain trizonocolpate apertures (4 marks)

Examiners:

Dr. Ehsan El-Habashy

Dr. Ahmed M. Abd El-Gawad

Mansoura University  
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Botany Department  
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**Final Examination in Botany (June 2012)**

Educational Year: 3<sup>rd</sup> level

Course(s): Stress Physiology and Biotic Control

Time: 2 hrs

Full mark: 60

Subject: Botany (B. 325)

Program: Environmental Sciences

Date: 21 / 6 / 2012

Question mark: 20

**Answer the following questions:**

Q1: Effect of structural features of stomatal apparatus as biotic factor on stomatal movement under water stress. (20 marks)

Q2: Briefly write on the following:

1- Effect of temperature as abiotic stress factor on water absorption. (7 marks)

2- Water retaining capacity of soil. (6 marks)

3- The response of photosynthesis and respiration to water stress. (7 marks)

Q3: Account on the effect of stress physiology that induced by nutrient deficiency of two elements that are part of carbon compounds, two elements that are important in energy storage and two elements that remain in ionic form on plant growth and metabolism. (20 marks)

**Examiners:**

**Prof. Dr. Omar A. El Shahaby**

**Prof. Dr. Afaf Gaber**



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Final Examination in Botany  
Second Term: Jun. 2012

Educational Year: Third Level

Program (Branch): Environmental Sciences

Subject: (324 ع ب)

Course(s): Plant Community & Desert Habitats

Time: 2 hrs

Date: 4 /6 /2012

Full mark: 60

Question mark: 20

Answer the following questions:

**Q.1 Write on Two Only of the following:**

( 20 marks )

- The classificatory units of the plant community.
- Qualitative structures of plant community.
- Point methods of sampling the vegetation.

**Q.2 A- Complete the following sentence:**

( 10 marks )

- The final stage in vegetation development is referred as ....., while the first stage is called .....
- According Raunkiaer life-form classes, cryptophytes are divided into ....., ..... and .....
- The transects are of two types ..... and .....
- The number of individuals of species per unit area is called .....
- In coexistence, when one species lives at the expense of another is called ....., while when two or more species benefit from the relationship with none suffers is called .....

**B- Write on Two Only of the following:**

( 10 marks )

- Sand dunes and wadi habitats in the Egyptian desert.
- Anatomical adaptation of xerophytes
- Desertification

**Q3. A- Fill the space with the correct word:**

(10 marks)

- Desertification is causing ..... and ..... in lithosphere.
- True xerophytes are usually characterized by ..... and.....
- Xerophytes are classified into ....., ..... and .....
- A climate causes a desertification by causing ..... and .....
- The characteristic features of the Arabian Desert in Egypt are .....

**B- Answer each of the following either true (  $\checkmark$  ) or false ( X ): ( 10 marks )**

- Desertification causes a decline in biological diversity.
- Physical drought is the presence of water in an excess amount but not available to plants.
- Xeroplasic adaptations are inherited whether the xerophyte grows in xeric conditions or not.
- Deserts are formed wherever evaporation exceeds precipitation.
- Spines and hairs cover the surface of xerophytes for camouflage tool.
- Desert regions can contain more than one sand dune type.
- Wind erosion can only occur in desert regions.
- Sunken stomata in xerophytes are a tool to control water loss.
- In xerophytes, the ratio between root and shoot size is balanced.
- In desert, annual plants are the most common plant life-form.

Examiners:

Prof. Ibrahim Mashaly

Dr. Yasser El-Amier

Mansoura University  
Faculty of Science  
Zoology Department  
El- Mansoura, Egypt



٢ علوم السَّيِّمَة - مَطَا فَحَة بِيُولُوجِيَة وَكِيمِيَايَة (ع ٣) (٣١)

جامعة المنصورة  
كلية العلوم  
قسم علم الحيوان  
المنصورة - مصر

Final exam, May, 2012

Educational year: 3<sup>rd</sup> level  
Time: 2 hr  
Date: 11/June/ 2012

Program: Ecology  
Subject: Biological & chemical insect control  
Full Marks: [60] Mark

Answer the following 4 Questions: Each Questions [15] Mark

**Q1.** a- Enumerate predators of insects from class Hexapoda, giving examples.

[15] Mark

b- Entomopathogens means .....and include ....., ....., ....., and ..... Select one entomopathogen then write on its ( mode of action, host attacking, symptoms and relative effectiveness) .

**Q2.** Write about the following:

[15] Mark

a- Two *spp.* Of entomophagous insects and their role as biotic control agent from Order: Coleoptera & one fly *sp.* From Order: Diptera.

b- Two *Spp.* Of entomoparasitic insects & their role as biotic control agents from Order: Hymenoptera & one from Order: Diptera.

**Q3.** I. MCQ:

[10] Marks

1. Synthetic ----- are generally only used as required and often only at specific times in a pests life cycle.

a. pesticide      b. aluminium phosphide      c. pest control

2. Chemical ----- were to be used in manner least disruptive to biological control.

a. malathion      b. organophosphate      c. insecticide

3. Pyrethrum obtained from the dried ----- Flowers.

a. neem      b. citrus      c. chrysanthemum

4. ----- natural insecticide used to control pests in stored food & household pests.

a. Malathion      b. Pyrethrum      c. Thanite

*Please, follow up the rest of the questions*



5. Rotenoids biochemical mode of insecticidal action involves -----

- a. inhibition of mitochondrial electron.
- b. blocking the synapses associated with motor nerve.
- c. inhibition of acetylcholinestrerase enzyme.

II- Illustrate how the resistance of insects developed towards the synthetic insecticides mentioning its ways. [5] Marks

Q3. I- complete the following: [10] Marks

- a. Organophosphates react ..... with enzyme acetylcholinestrerase, which is responsible for inactivating acetylcholine (Ach).
- b. .... is a pest control strategy that used an array of complementary methods.
- c. .... is a pesticide used against insects in all developmental forms.
- d. .... & .... Used against the eggs & larvae of insects respectively.
- e.  $\text{Cu}_4(\text{CH}_3\text{COO})_2(\text{AsO}_2)_2$  an insecticide used for control ..... on potatoes.

II- Identify from the following which statement is (true) and which is (false) and correct: [5] Marks

1. Some insects are never pests because their Equilibrium position (EP) is always above economic threshold (ET).
2. Dinitrophenol & their derivatives are very specific pesticides.
3. The general symptoms of DDT poisoning in insect are violent tremors, loss of movement, followed by convulsions & death.
4. Pure parathion is a pale yellow liquid with an odor of garlic & slightly soluble in water.
5. Carbamates are a group of inorganic compounds sharing a common functional group with general structure  $-\text{NH}(\text{CO})\text{O}-$ .

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**Examiners:**

Prof. Dr. Abdel-Raof Salam  
Dr. Zeinab Sh. Abou-Elnaga

*Good Luck*

(2012) 2012/2013

Mansoura University  
Faculty of Science  
Zoology Department  
Date: 18/6/2012  
Time: 2 hr



Academic year: 3<sup>rd</sup> level  
Program: Ecology  
Course: Es 308  
Full Mark: 60 Marks

Answer all the following Questions:

I- Complete the following sentences: [15 mark]

- The intermediate host is .....
- Reproduction in Protozoa is ..... and .....
- Locomotion in Protozoa by ....., ....., and .....
- The muscle fibres of Platyhelminthes well developed composed of two layers; ..... and .....
- The infective stage of *Trichomonas vaginalis* is .....
- The infective stage of *Giardia lamblia* is ..... which composed from ....., ..... and .....
- In Nematoda ..... and ..... systems are absent.

II- With labeled diagram answer only Three from the following items:

[27 mark]

- Life cycle of *Ascaris lumbricoides*.
- Life cycle of *Plasmodium spp.*
- Life cycle of *Schistosoma spp.*
- Life cycle of *Fasciola spp.*

III- With labeled diagrams discuss Three only of the following:

[18 mark]

- Life cycle of *Trypanosoma spp.*
- Life cycle of *Taenia spp.*
- Reproduction in *Entamoeba histolytica*.
- Life cycle of *Leishmania*.

With my best wishes

Prof. Dr. Sayed A. El-Tantawy

Prof. Dr. Mohamed F. Abdel Aal

Prof. Dr. Enayat Salem

Dr. Shadia Fred





Mansoura University  
Faculty of Science  
Zoology Department  
Date: 7/6/2012  
Time: 2 hr



Academic year: 3<sup>rd</sup> level  
Program: Ecology  
Course: Es309  
Congenital malformation  
Full Mark: 60 Marks

Answer all the following Questions:

1-a) discuss in brief the principles of teratology (20 marks)

b) discuss the different types of congenital anomalies

2- I) complete the following sentences: (20 marks)

a- the hormones which cause congenital anomalies are

..... and .....

b- the main cause of renal agenesis is .....

c- Meromelia is .....

d- during heart development, the mesoderm surrounding the pericardial coelom form ..... and .....

e- the malformation of skull is caused by ..... and called .....

II) describe the developmental stage of limb and two types of its congenital malformation

3-A) Compare between the following (20 marks)

- Scaphocephaly and brachycephaly
- Tricuspid atresia and hypoblastic left heart syndrome
- Multicystic kidney and renal agenesis

B) discuss ONE of the following

- Spina bifida
- Skull sutures and plagiocephaly

Best wishes

Dr. Eman Helmy Bakr