

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



جامعة المنصورة
كلية العلوم
قسم النبات
المنصورة - مصر

Final Examination in Botany

First Term: Jan. 2013

Educational Year: Fourth Level

Program (Branch): Environmental sciences

Subject: Bot (424)

Course: Marine ecology and environmental pollution

Time: 2 hrs

Date: 25 /12/2012

Full mark: 60

Question mark: 20

Answer the following questions:

Q1: Discuss the following:

(20 marks)

- General characteristics features of Atlantic Ocean.
- Life Styles in marine habitats.
- Flow of matter and energy through the marine food web.
- Pelagic deposits of sea floor.

Q2: A) – Give an account on Five of the following:-

(10 M)

- Population.
- Ecosphere.
- Upwelling.
- Residence time.
- Tsunamis.
- Red Tide.

B) – (i): Complete the following:

(6.5 M)

- Point pollution is-----.
- is the main source of nutrients.
- Persistent organic compounds are-----.
- Increasing----- in ponds and lakes lead to-----of algae and aquatic plants and decrease-----which increases fish and other organism-----.
- DDT was----- that become concentrated in-----.
- Thermal pollution is -----
- Mercury is on the -----of chemicals.

(ii): Explain the causes of Red Tide.

(3.5 M)

Q3: A)-Write on:-

(8 M)

- Dead zones with example.
- Poisoning, internal damage and decrease reproduction as biological effects of oil pollution in marine system.

B)- Decide the ways that harmful algae kill aquatic life.

(4 M)

C)- One of the most visible result of nutrients pollution is eutrophication.

Discuss the impacts of eutrophication on marine ecosystems.

(4 M)


D)- A large portion and great danger of solid waste is non-biodegradable plastic. Demonstrate solid waste and its effects as source of marine pollutant.

(4 M)

Examiners:

Prof. Samy Shaaban

Dr. Ghada El Sherbeny

| | | |
|--|---|---|
| Faculty of Science Mansoura University Zoology Department Educational year 4 th level Time 2 hrs Date 25/12/2012 |  | Program: Biology "Ecology" Subject: Animal Behaviour Full Mark: 60 marks |
|--|---|---|

Answer all questions provided

Q1. (A): Write the scientific expression: (7.5 Marks)

- 1- Certain young hawks have the habit of filipping the tail at the moment the feces are released.
- 2- After the young birds leave the nest, they show a strong tendency to fly together in flocks.
- 3- One of the first things which the male black birds do upon their return from the south is start fighting off enemies.
- 4- Many animals get most or all of their food in liquid form.
- 5- The female accept the male and actual mating takes place.

(B): Are the following statements true or false, rewrite the false statements: (7.5 Marks)

- 1- Silk worm weaves accurate cocoon, although it didn't see others do this work (acquire beh. Action of instin. Part).
- 2- Flying and singing for some birds (pure instinct. Beh. Action).
- 3- Return of young eels after hatching to water from which their parents have migrated before marriage (pure insetin. Beh. Action).
- 4- As for aquatic funa the R.H. is replaced by acidity.
- 5- Receptors transfere the receptive organ reaction, translate it & release the suitable sign.

Q II. Demonstrate the following items: (15 Marks)

- A. Learning is based on the use of past experience results.
- B. External and internal receptors.

Q III. Discuss the migration in insects. (15 Marks)

Q IV. Compare between three of social insects in their behaviour. (15 Marks).

Best Wishes.....

Prof. Dr. Ahmed Ebid
Dr. Eman A. El-Shabasy

Dr. Hoda A. Salem
Dr. Ahmed A. El-mansy

Mansoura University
Faculty of Science
Zoology Department
First term- Final exam
Fourth year
Environmental Science



December 2102
Subject: Marine Ecology
Code: Es403
Date: 19/12/2012
Time Allowed: 2hr
Total mark: 60 degree

Answer three questions only with labeled diagram

Question One: (20 degree)

- A. Analyze the most important five damaging pollution forms of corals.
- B. Which two of the components of climate affect living things greatly?

Question Two: (20 degree)

A- Write briefly on the largest life zone of the ocean, the surf zone, benthic fauna and the sandy beach environment.

B- Identify, by name, the zone in which most of the world's commercial fishing takes place. Give two reasons why this zone is so biologically productive.

Question Three: (20 degree)

- A- Define: Marine ecology, bio-indicator and ecosystem ecology.
- B- Explain the economic importance of marine biology.
- C- What are the results of fishing on marine ecosystem?
- D- In your opinion, what is the safest method to get rid of oil spills? Refer to the other methods briefly.

Question Four:

Mark (√) or (×) on each of the following and give reasons: (20 degree)

- 1- Water is a major environmental disturbance.
- 2- The intertidal zone is the area located between high tide and sub tide.
- 3- Coral reefs are found in latitudes where the ocean's waters are cold and clear.
- 4- Fishing activities lead to changes in the structure of marine habitats.
- 5- Oil can cause hypothermia in marine animals.

With best wishes of success, **Dr. Sherif Ramadan**

Mansoura University
Faculty of Science
Department of Zoology



Date: 1 January 2013
Time : 2 hours
Full Mark: 60

Final examination in Environmental Physiology
Level 4 students,

Answer (All) the following Questions

(60 marks)

1- Define then answer the question.....(20 marks)

a. Define the following terms:

- i. Symporter
- ii. aquaporin
- iii. Osmotic concentration
- iv. Hibernation
- v. Ectothermic animals

b. Mention four osmoregulatory strategies in fishes. Compare between osmotic regulation by marine and fresh water teleosts.

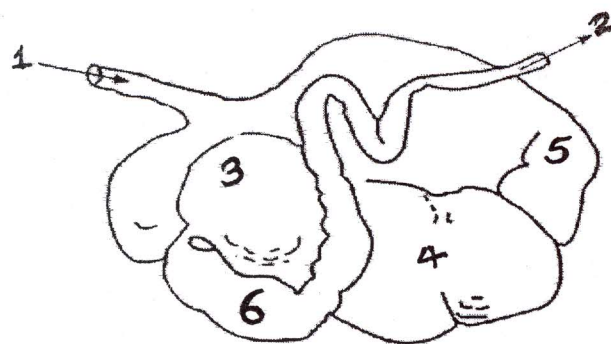
2- Describe the annual cycle (stages) of black bear activity of hibernation.(10 marks)

3-a- Compare between physical and behavioral adaptation..... (9marks)

- b- Define Fick's Law in O₂ diffusion.
- c- Some examples of chemical defence

4- a- Write short notes on the following:(12 marks)

- i- Difference between ruminant and non-ruminant digestion
- ii- The advantages of rumen digestive system
- iii- Labelle the diagram



b- With complete labeled diagram write on:

(9 marks)

- i- the fish counter current system
- ii- indicate the adaptation of some aquatic animals to get their oxygen



Final Examination in Botany

Term: Jan. 2013

Educational Year: Fourth Level

Program (Branch): Environmental Science

Subject: ES 423

Course(s): Cell ultrastructure and cell metabolism

Time: 2 hrs

Date: 5 / 1 / 2013

Full mark: 60

Question mark: 20

Answer the following questions:

Q1-A- Compare between each pair of the following: (10 Marks)

1. Endocytosis and exocytosis.
2. Smooth and rough endoplasmic reticulum as ultrastructure and function.

B- Discuss the following: (10 Marks)

1. The fluid mosaic model of plasma membrane.
2. Factors affecting enzyme release of lysosomes.

Q2-A- Fill in the spaces using suitable words or phrases: (10 Marks)

1. The four major classes of cellular macromolecules are,, and
2. Mitochondria matrix include, and
3. is the site of detection and recognition of signals
4. The inner membrane of a chloroplast is composed of flattened sacs called and collectively these sacs are termed

B- Give reasons for the following points: (10 Marks)

1. Non covalent bonds play an important role in cellular organization
2. The ratio of NADP^+ to NADPH is kept low
3. Life requires free energy
4. DNA replication must go in the direction from 5' to 3'

Q3-A- Compare between one pair of the followings (6 Marks):

1. Head and tail polymerization
2. Energetically favorable and unfavorable reactions

B- Correct the wrong sentences (10 Marks):

1. Condensation of micromolecules is an energetically favorable reaction
2. Citic acid cycle is a cytosol dependent method to obtain energy in eucaryotes
3. Photosynthesis and respiration are complementary processes
4. Enzymes could catalyze energetically unfavorable reactions
5. Acetyl CoA is a methyl group carrier

C- How could the cell solve one of the following problems (Select one only) (4 Marks):

1. Drive 26 Kcal/ mol free energy from ATP
2. Synthesize glutamine from Glutamic acid

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**Final Examination in Botany
First Term: Jan. 2013**

Educational Year: Fourth Level

Program (Branch): Environmental sciences

Subject: Bot (422)

Course: Waste management and environmental diseases

Time: 2 hrs

Date: 12/1/2013

Full mark: 60

Question mark: 20

Answer the following questions:

Q1: A) - Complete the following:-

- 1- Disposal methods for municipal solid waste are-----,-----,-----,----- (2 M)
- 2- Waste management is ----- (1 M)
- 3- -----,-----,-----,-----, are sources of wastes. (2 M)
- 4- Incineration with energy recovery is----- (1 M)
- 5- If wasted not managed wisely they affects-----,-----,-----,----- (2 M)
- 6- The waste hierarchy refers to-----,-----,----- (1.5M)
- 7- -----,-----,-----,----- are critical elements in a secure landfill. (2 M)
- 8- Reduce waste means-----of waste, whereas reuse waste is----- (1.5M)
- 9- Hazardous waste according EPA is----- (1.5M)

B) – Discuss briefly bioreactor landfills provide answer with diagram. (5.5M)

Q2: Write briefly on the following:-

(20 marks)

- 1- Eco-friendly materials as alternatives to synthetic materials.
- 2- Leachate collection system.
- 3- Benefits of composting.
- 4- Why waste management?

Q3: A- Describe:

- 1- Satellite accumulation areas. (4 M)
- 2- Response for small spills of hazardous waste. (3 M)

B- Classify the types of environmental diseases explaining one of them. (5 M)

C- Define:- Environmental diseases – Geomembranes. (4 M)

D- Diagram composite liner system explaining its use. (4 M)

Examiners:

Dr. Ghada El Sherbeny

Dr. Yasser El Amier



إمتحان نهائى (دور يناير ٢٠١٣)
المستوى: الرابع برنامج: علوم البيئة
المادة: جيولوجيا بيئية
الورقة الإمتحانية: ج ٤١٧
الدرجة الكلية: ٦٠ درجة
تاريخ الإمتحان: ٢٠١٣ / ١ / ١٥

أجب عن الأسئلة الآتية:

السؤال الأول: أجب بصح أم خطأ :- (٢٠ درجة)

- (١) الشمس تتكون من غازات ملتهبة معظمها من غاز الهليوم وقليل من الهيدروجين.
- (٢) النشاط البركانى مد سطح الأرض فى العهود الباكرة بالماء الذى كون البحار.
- (٣) حركة الألواح الصخرية تتسبب فى حدوث البراكين والزلازل وتكوين الجبال.
- (٤) اللب الخارجى للأرض سائل ولذلك يسهل حرك الألواح الصخرية فوقه.
- (٥) التغيرات فى تركيز الأوكسجين فى الغلاف الجوى يؤدى إلى إحداث تغيرات فى الطقس.
- (٦) كلما ارتفعت درجة حرارة الماء زاد ذوبان الأوكسجين الموجود فى الهواء.
- (٧) الأشعة المرئية الضوئية هى أكثر الأشعة الشمسية التى تصل إلى الأرض.
- (٨) تكوين القارات والجبال هما أحد نواتج الحركات الأرضية الرأسية والأفقية البطيئة.
- (٩) الكواكب البعيدة عن الشمس تمتاز بكثرة غاز الميثان بينما القريبة منها تمتاز بكثرة غاز ثانى أكسيد الكربون.
- (١٠) تعتبر الطحالب البحرية أحد بالوعات التلخس من ثانى أكسيد الكربون.

السؤال الثانى: أذكر السبب :- (٢٠ درجة)

- ١- حدوث الزلازل والبراكين.
- ٢- إعتبار البحر الأحمر محيط وليد.
- ٣- سهولة تحرك الألواح الأرضية.
- ٤- حماية الحياة على الأرض
- ٥- زحف القارات.
- ٦- ظهور مشاكل التلوث البيئى.
- ٧- تكون المواد الأرضية على سطح الأرض.
- ٨- الأرض هى الموطن المناسب والوحيد للإنسان.
- ٩- خطورة إستخدام الصخور القاعدية فى بناء السدود والأنفاق .
- ١٠- تكون القارات والجبال والبحار.

السؤال الثالث: أذكر فقط: (٢٠ درجة)

- ١- أنواع المشاكل البيئية.
- ٢- الأشكال الأرضية للرياح.
- ٣- مكونات الغلاف الجوى العهود الباكرة.
- ٤- المعادن التى لاتتحمل التجوية.
- ٥- التركيب الصخرى والكيميائى للأرض.
- ٦- أنواع الأشعة الشمسية.
- ٧- المكونات الكيميائية والطبقية للغلاف الجوى.
- ٨- المخاطر الجيولوجية الطبيعية.
- ٩- حركات ماء البحر.
- ١٠- الأهمية الجيولوجية للغلاف الهوائى.