المستوى الرابع - علوم البيئة - الموارد الطبيعية وإدارة المحميات الطبيعية ع ب 427

Mansoura University
Faculty of Science
Botany Department

جامعة المنصورة
كلية العلوم
قسم النبات

Final Examination in Botany
May 2012

Educational Year: Second Level **Program (Branch): Environmental science**
Subject: (427) ع ب **Course(s):** Conservation natural resources and population genetics

Time: 2 hrs **Date: 30 / 6 /2012** **Full mark: 60** **Question mark: 20**

Answer the following questions:

Q.1 Answer the following questions:

A- "Haemophilia is much more frequent among men than among women" **Explain in details this statement with examples.** **(10 marks)**

B- Explain the factors affecting changes in allele frequency in a population according to Hardy and Weinberg? **(10 marks)**

Q.2 A- Fill in the spaces using suitable words or phrases: (10 marks)

1- Genes located on Y- chromosomes are called .....
2-..... is a unit of community.
3- In test cross if the ratio of offspring is 50%:50% the individual is.....
4- Coat colour in Rabbits controlled by.....
5- Colour blindness is a.....character.
6- The external feature of character is termed.....
7- Based on Mendel experiments, he put two important principles or laws, these are..... and .....
8- ..... individuals have similar alleles, where as .....individuals have different alleles.

B-Write on <u>Two Only</u> of the following: **<u>(10 marks)</u>**

1- Mineral resources.
2- Wild life management.
3- Soil resources.

Q.3 A- Complete the following sentences **<u>(10 marks)</u>**

1- Natural resources are classified according to renewability into ..... and .....
2- The physical factors having the greatest effect on the terrestrial ecos are ....., ... and .....
3- The type of relationship that is beneficial to only one organism in th association is called.....
4- ..... and ..... are natural causes that change the environment.

بقية الأسئلة خلف الورقة

5- The water conservation can be done by ..... , ... and .....

6- ..... is an early warning that the community or ecosystem is exp to degradation.

7- The chemical factors having the greatest effect on the aquatic ecosy are ....., ... and .....

8- ..... and ..... are the raw material for fiber producin while *Panicum turgidum* is used in ..... and .....

9- The source of energy for almost all life on earth is.....

B- Answer each of the following either true (√) or false (×):

(10 marks)

1- Non-renewable resources are natural resources that can be re-made grown.

2- People need many natural resources to live and make life easier.

3- Decomposers are a biotic component of an ecosystem.

4- Water is continuously renewed through the hydrologic cycle.

5- Commensalism is a relationship that is beneficial to both organisms association.

6- Introduction of exotic species is another method of wild life develo

7- Fossil fuels are natural resources used to provide energy.

8- Natural resources can be classified into biotic and abiotic resources.

9- Wild life means, any form of animal and plant life existing in natur surrounding.

10- Plant and Soil are renewable natural resources.

Examiners: Prof. Magda Soliman Dr. Yaser El-Amer

ع علوم البيئة - التربة (ع ب 425)

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. 2012

Educational Year: Fourth Level **Program (Branch): Environmental Science**
Subject: (425 ع ب) **Course(s): Soil**
Time: 2 hrs **Date: 9/ 6 /2012** **Full mark: 60** **Question mark: 20**

Answer the following questions:

Q.1 Complete the following sentences with the correct terms: (20 marks)

1- Non-living things in an ecosystem are ..... factors.
2- The scientific study of interactions among organisms and between organisms and their environment is.....
3- Saline soils are commonly named ....., while non-saline alkali soils usually named.....
4- Soil Biology is.....
5- The best soil type for cultivation is.....
6- In arid regions, the halomorphic soil habitats are two types ..... and .....
7- Humus is.....
8- Non-mineral nutrients are ....., ... and .....
9- In agriculture, acid soil is treated with..... while alkali soil is improved by addition of.....
10- The simplest and easy methods of soil reclamation may be achieved in.....
11- The macronutrient, ...is stimulates early growth and root formation.
12- The actual location or place where an organism lives is called.....
13- Soil may be classified according to the content of organic matter into..... ..... and .....

Q.2 Put the correct (√) or wrong (×) mark after each of the following sentences: (20 marks)

1- Humid climate favours alkaline soils while arid zones acidic soils are favoured.
2- Salts like gypsum and chalk are very soluble and do not harm crops.
3- The efficiency of an ion to replace other depends on: concentration of ion in solution, number of charges on ions and the speed of ion movement.
4- Rainfall and drainage are changing the concentration of soil solution.
5- In soil profile, horizone A is the zone of decomposition, while horione B is the zone of accumulation.
6- Soil structure and activity of microorganisms are influenced by soil reactions.
7- The process of granulation affectes soil structure and aeration
8- Nickel Function in plant is differentiation of meristematic tissue.
9- The clay micelle in a soil act as a store house for plant nutrients.
10- Soil quality is the major determinant of plant distribution and growth.

Q.3 A- Write on <u>Two Only</u> of the following: (10 marks)

1- Effect of saline soil on plants.
2- Soil Nitrogen Cycle.
3- Importance organic matter.

B- Shortly write about biotic soil components. (10 marks)

Examiners: **Dr. Ghada A. El-Sherbiny** **Dr. Yasser A. El-Amier**

المستوى الرابع . علوم البيئة - مناعة وبيولوجيا جزيئية ع ب ع ٤٠٢

Mansoura University
Faculty of Science
Zoology Department
Subject: Zoology – Code: ES402
Courses: Immunity & Molecular Biology
Academic Year: 2011-2012

Second Term - Final Exam
4th Level Environmental Sciences Students
Date: 12 June, 2012
Time Allowed: 2 hrs
Full Mark: 60

Answer All the Following Questions

Q. 1. Discuss the Following Statements: **(15 marks, 5 Marks each)**

1. A. The nucleotide sequence of DNA fragments.

1. B. The polymerase chain reaction amplifies selected DNA sequences.

1. C. Transgenic animals carry engineered genes.

Q. 2. Write Short Notes on the Following: **(15 marks, 5 Marks each)**

2. A. Compare between the types of RNA.

2. B. Production of Human Insulin.

2. C. Compare between Mitosis and meiosis.

Q. 3. Mark (√) or (X) for the following statements: **(15 marks, each statement of one Mark)**

1- Coughing and sneezing reflex are among the mechanical barriers of the acquired immunity.

2- Intact skin is the first line of defense in the acquired immunity.

3- Bone marrow is a primary lymphoid organ for T cell development.

4- Naturally passive acquired immunity: The injection of already prepared antibodies such as gamma globulin (short-term immunization).

5- Lymph nodes collect antigens from blood stream.

6- Antibodies are part of the humoral-mediated immunity.

7- Primary antibody response has a low Ab level with gradual increase.

8- In secondary antibody response the type of antibody is IgG.

9- IgG is the only immunoglobulin that cross the placenta.

10 IgA is found in serum and body secretion.

11- IgM is present in colostrum and mother milk to protect newly born.

12- Bacterial and viral antigens are considered endogenous antigens.

13- Acidic pH in the vagina is one of the defenses against microbes in the innate immunity.

14- Interferons are proteins usually produced by virally infected cells.

15- Intercellular infections are mediates by humoral Mediate Immunity.

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Q. 4A. Choose the right answer from each of the following: **(10 marks, each of one Mark)**

1- It is considered one of the Chemical barriers of the innate immunity:

a) Coughing b) Lysozyme in tears c) Normal bacterial flora d) Phagocytes

2- A foreign substance, when introduced into human body, stimulate formation of specific antibodies or sensitized lymphocytes:

a) Complement b) Antibody c) immunoglobulin d) Antigen

3- In antibody antibody response the type of antibody is ……..

a) IgA b) IgE c) IgG d) IgM

4- Cell- Mediate Immunity (CMI) are responsible for: ……..

a) Resistance to intracellular pathogens b) Resistance to tumors

c) Resistance to fungal and protozoal infections d) all of them

5- Which Collect antigens from blood stream?

a) Bone marrow b) Lymph node c) Spleen d) Thymus

6- They exist as free cells in blood (monocytes) & fixed cells in tissues (Kupffer) cells of liver

a) Natural killer cells b) T cells c) B cells d) Macrophages

7- The type of Acquired immunity which is following vaccination with live or killed infectious agents or their products.

a) Artificial active b) Artificial passive c) Natural active d) Natural passive

8- Lactoperxidase enzyme is among the innate immune defenses that present in …….

a) Tears b) Blood circulation c) Saliva & Milk d) Small intestine

9- The …… kill infected cells.

a) T cytotoxic cells b) B cells c) T helper cells d) Dendritic cells & Macrophages

10- The …… produce antibodies.

a) T cytotoxic cells b) B cells c) T helper cells d) Dendritic cells & Macrophages

Q. 4B. Complete the following sentences: **(5 marks each space of 0.5 Mark)**

1- Immunology is the study of ……., ……., and …… responsible for the recognition and disposal of …… or …….. material that enters the body.

2- B-cells become …… cells and secrete ……

3- Immunity is the mechanism which allows the body to …….. , ..., & …. foreign materials.

انتهت الأسئلة

With our best wishes,

Dr. Sayed M. Kamel Gomaa - Dr. Mohamed Fathy Abouel-Nour Hegazy

ع علوم البيئة .. أ.غ. عام فى النبات ع ب ٤٢٦

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

جامعة المنصورة
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المنصورة - مصر

Final Examination in Botany
Second Term: June. 2012

Educational Year: Fourth Level **Program (Branch): Ecological Sciences**
Subject: ES (426) **Course(s): General Plant Metabolism**
Time: 2 hrs **Date: 05 / 06 /2012** **Full mark: 60** **Question mark: 20**

Answer the following questions:

Q1 **Describe the following briefly:** **(20 mark, 5 mark each)**

1- Main steps of De Novo synthesis of purine nucleotides in plants.

2- Protein degradation machinery in plant cells. What is the biological significance of protein degradation in plants?

3- Asparagine metabolism in plants.

4- Enzyme specificity and the induced fit model.

Q2 The GS/GOGAT cycle is the principle pathway for ammonia assimilation in plants. Discuss this statement through addressing the following: what do GS and GOGAT stand for, the role of each of them in the cycle, their isoforms and their cellular localization, do these isoforms have overlapping roles *in vivo* and how would you test that? Explain. **(20 mark)**

Q3 In plant cells, complete nitrate reduction to ammonia is partitioned between cytoplasm and chloroplast. Discuss this statement with special reference to the enzymes involved, their roles and the regulation of the whole process. **(20 mark)**

Best wishes

Examiner: Dr. Farag Ibraheem

المستوى الرابع - علوم البيئة - مزارع سمكية ع ب (٤١٣)

Mansoura University
Faculty of Science
Zoology Department
El- Mansoura, Egypt
Full Mark: 60 Marks
Code: (413) ع ب

Second Term Examination
Educational year: Fourth Year
Time Allowed: 2hr
Date: Tuesday 26 - 6 - 2012
Subject: Aquaculture (Fish Farms)
Course: Aquatic Biology
Program: Environmental Studies

Answer All The Following Questions:

Question 1:Answer the Following Questions by Completing each Sentence:-

22 (Marks), 0.5 (Marks) for each missed word

A- Main commercial fish that can be cultivated in Egypt are -----(1)-----,-----(2)-----,-----(3)-----, -----(4)----,-----(5)-----,----(6)-----,----(7)-----.

B- The factors that work together to make a good site for fish pond are ----(8)-----, ----(9)------,----(10)-----

C- If the water used in fish pond is very clear, the farmer may have to ---(11)---- because ----(12)------. If the water is too muddy, it will have to ---(13)---- before it is used in the pond while if the water is bright green, it is probably has a lot of --------(14)--------- in it and if the water is dark and smelly brown, it may have ------(15)----- in it and then you should add -----(16)------- to the water.

D- Fish forms an excellent food for human being for several reasons such as ---(17)----,------(18)------,----(19)------,----(20)------,----(21)------,----(22)------. Because of these reasons the fish meat is called------(23)-------and is recommended to consume even by the ----(24)------ and -----(25)------.

E- There are two different types of fish ponds depending n the site, these are -----(26)-----,-----(27)-------. The main difference between these two types of ponds is ------(28)---------.

F- The most important water quality criteria for site selection are ----(29)------, -----(30)------, ------(31)------, -----(32)------.

G- Temperature of the water plays a vital role in the production of fish food in the pond ecosystem and ultimately in the production of fish. The cold water is -----(33)----- Productive than ------(34)------ water. Therefore water temperature between ------(35)------- to ------(36)------- is considered most suitable for fish culture.

H- Salinity of water is defined as -----(37)--------.

I- Fish farming also known as ------(38)------,----(39)------,----(40)------,----(41)---- and can be defined simply as ------(42)-------. It faces many problems such as -----(43)------,-----(44)-----.

Question 2: Answer All of the following:- **24 (Marks)**

[1] Give an account on each of following:- **14 (Marks) 2 (Marks) for each point**

A- Topography.

B- Squeeze method.

C- Ground water test.

D- Water permeability test.

E- Barrage ponds.

F- Fertilizers.

G- Diversion ponds.

[2] There are different systems of fish farming management. **10 (Marks)**

Discuss these systems with referring to advantages and disadvantages.

Question 3: Answer the following Question:-

14 (Marks)

Aqua farming technician or other person interested in growing fish should follow some of important considerations before the farmer builds his fish farm.

" Discuss in detail"

Examiners:

Dr. Heba Allah Elbaghdady

With My Best Wishes

المستوى الرابع . علوم البيئة . تحنيط وتحويز حيوان ع ٤١٤

Mansoura University — Final examination (Second Term)
Faculty of Science — Fourth year: Environmental Sciences
Zoology Department

Subject : Taxidermy and preparation of museum models (Z 414)

Time : 2 hr — Date: Tuesday, 19 – 6 - 2012

Grades : 60

Answer all the following questions

(Each question 20 Marks)

Q1 : A- Define each of the following : Actual pressure – Ideal pressure
Dialysis – Museum – Hydration – Dehydration – Clearing –Mouting

B- What is involved with the proper care of biological collections ?
C- What are the types of museum ?
D- There are four parts of modern embalming. Discuss
E- What are the agents of deterioration that affect biological collections ?

Q 2 : How you can prepare each of the following :
A- a stained blood film B- a permanent chitinized specimen
C- a stained paraffin wax section
D- a stained whole mount parasitic specimen

Q 3 : Give an account on each of the following:

A- Standards for the disposal of specimens
B- Embalming of fishes , amphibians and Aves OR Embalming of Reptiles and Mammals
C- Standards for curation and conservation

Examiner: With best wishes

Prof. Dr. Mohamed F. A. Mansour