

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



جامعة المنصورة
كلية العلوم
قسم النبات
المنصورة - مصر

Educational Year: Fourth Level

Program (Branch): Environmental Sciences

Subject: Bot (426)

Course(s): General Plant metabolism

Time: 2 hrs

Date: 16 /5 /2015

Answer the following questions:

Q1: Glyoxylic acid is synthesized in two different organelles, mention these organelles. Why is it synthesized in both cases? Explain in details how these pathways occur?

(20 marks)

Q2: Write short notes on the following:

- 1- Decarboxylation and Deamination reactions.
- 2- Proteinogenic and non proteinogenic amino acids.
- 3- Symbiotic association of microorganisms with plants.
- 4- Alkaloids derived from tryptophan.
- 5- Metalloproteins.

(20 marks)

Q3: Write shortly on:

- (a) The reactions of photosynthesis by Hatch and Slack pathway.
- (b) Direct oxidation pathway.

(20 marks)

With best wishes

Prof. Samy A. Abo-Hamed

Dr. Shaimaa M. N. Tourky



Final Examination in Botany
Second Term: Jun. 2015

Educational Year: Fourth Level

Program (Branch): Environmental sciences

Subject: Bot (425)

Course: Soil

Time: 2 hrs Date: 19/5/2015

Full mark: 60

Question mark: 20

Answer the following questions:

Q1: Give an account on the following:- (20 Marks)

- 1- Importance of soil organic matter.
- 2- Impacts of soil salinity on plants.
- 3- Non – saline alkali soils (black soil).

Q2: A- Complete the following:- (5marks)

- 1- Sewage sludge is.....
- 2- Saline alkali soil characterized by excess of..... and pH of.....
- 3- The soil classified according to its organic matter content into.....

4- B- True or false and correct the false- (5 marks)

- 1) Addition of cations improve saline alkali soil.
- 2) White alkali soil pH is exceed 8.5.
- 3) Halomorphic soil are categorized into three types.

(C)- Identify: (10 marks)

- (1) Weathering – (2) Soil texture –(3) Soil profile –(4) Porosity
- (5) Available Water – (6) Water holding capacity- (7) Field Capacity
- (8) Soil parent material – (9) Soil Structure- (10) Gravitational Water.

Q3: Complete the following sentences: (20 marks)

- 1-Factors affecting soil porosity ----1----, ----2-----, ----3-----.
- 2-The main factors affecting soil structure ___ 4___, ___ 5___, ___ 6___.
- 3-Factors affecting soil temperature ___ 7___, ___ 8___, ___ 9___.
- 4-Soil texture was affected by other features of soil like ___ 10___, ___ 11___, ___ 12___, ___ 13___.
- 5-In grassland the % of CO₂ in soil raises up to 5 % or more due to :
_____ 14 _____.
- 6-Transportation of parent soil may be achieve by the following factors
_____ 15___, ___ 16___, ___ 17___.
- 7-Some of the most active chemical factors of the weathering are considered as ___ 18___, ___ 19___, ___ 20___.
- 8-The true soil is composed of ___ 21___, ___ 22___, ___ 23___, ___ 24___, ___ 25___.



Answer All Questions

Part I Immunology

Question 1

(15 marks)

Write short notes on (Draw when needed):

- Development of T and B cells.
- IgG.

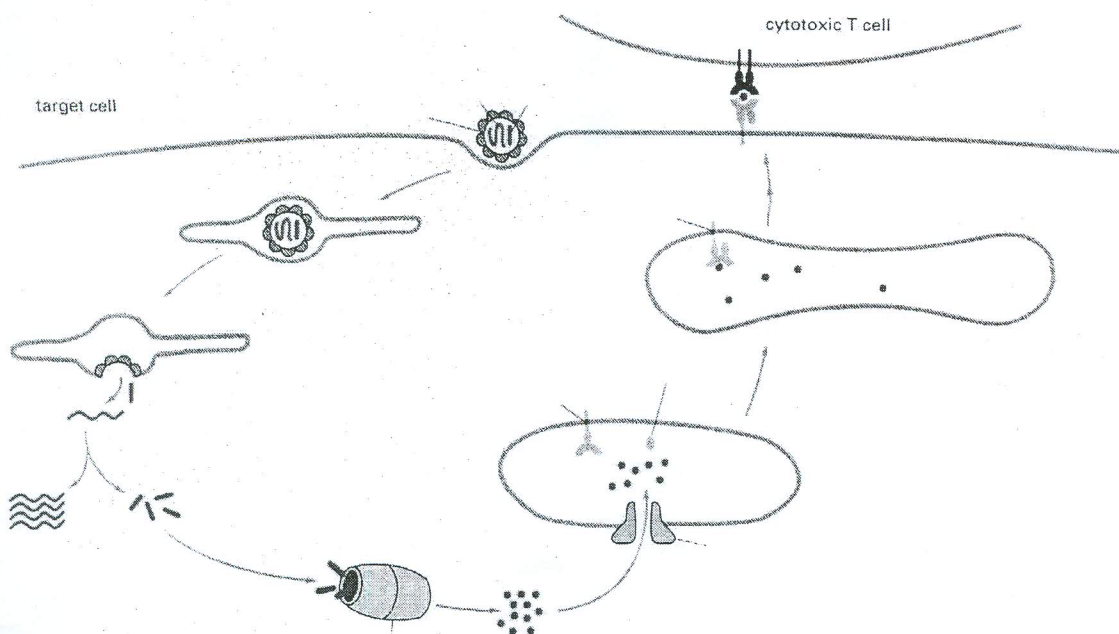
Question 2

(15 marks)

A- Complete:

- Skin, mucous membranes and cilia are among the components of immunity.
- cells develop in the thymus and function in the lymphoid organs .
- Mothers' milk has and classes of antibodies.
- Membrane-attack complement components include , , , ,
- Cytotoxic T cell has co-receptor.

B- Identify, draw and put the labels for the following diagram:



Part II: Molecular Biology

Q. 3: Write on the Following Statements:

(20 marks, 5 Marks each)

A: *Applications of recombinant DNA technology.*

B: *Type II Restriction endonucleases enzymes.*

C: *Characteristics of cloning vectors.*

D: *How are plasmids transferred into bacterial cells?*

Q. 4: Write short notes on the Following items:

(10 marks, 5 Marks each)

A: *Difference between Polyacrylamide and agarose Gel.*

B: *The main steps of Polymerase Chain Reaction (PCR).*

With our best wishes

Prof. Dr. Shrif Abdeen

Dr: Sayed Kamel Areida

Mansoura University
Faculty of Science
Zoology Department



May 2015
Fourthyear- Environmental Science
Subject: Taxidermy ع ب ع ٤١
Date: 26 / 5 / 2015
Time Allowed: 2hr

Answer the following questions

Question 1 : (15 Marks)

Give notes on the Amphibian preserving techniques and the methods for preserving reptiles.

Question Two: (15 Marks)

How you can prepare each of the following:

- a- A blood film stained with haematoxylin and eosin
- b- A blood film stained with Giemsa
- c- Paraffin wax sections
- d- A chitinous whole mount specimen

Question 3 : (15 Marks)

- A- What do you know about the chemicals and tools used in embalming.
- B- Define each of the following : Ideal pressure , Arterial solution distribution, Active transport system and Dialysis .

Question 4 : (15 Marks)

- A- Comment on the standards for collecting , curation and conservation.
- B- There are different methods for preserving Fish. Discuss this statement as you have been studied.

With best wishes

Prof. Dr. Mohamed Fathy Abdel-Aal Mansour

Mansura university.
Faculty of sciences
Zoolog Department
Time allow : 2 hr
Date : May 2015



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السنة الدراسية: المستوى الرابع
المقرر: مزارع سمكية

-Answer the followings :-

I Fish feeding concerning

- a) Rate to feed
- b) When to feed ?
- c) How to feed ?

II write on :

- a) Why we culture fish ? what is fish culture?
- b) Indoor fish farming
- c) Shape and size of fish pond

III Explain:

- a) Different types of fish farms
- b) Types of fish ponds
- c) What is fish and why we study fish ?

IV Discuss:

Different systems of Aquaculture or fish farming Management.

GOOD LUCK

Prof Dr : Ahmad EL-Wazir Hagra