Kafrelsheikh university
Faculty of Science
Department of Botany
Third year students (Botany)
Cell ultrastructure and cytogenetics final exam first term 2017/2018
(total marks : 70)

Name:	University number:

1-	Sodium /potassium pump across plasma membrane is a) important for muscle contraction in the cell b) type of active transfer c) pump Na out and K in d) all above correct
2-	The house of chlorophyll in the cell is a) thylakoids b)stroma c)chloroplast d) all above correct
3	"cri du chat" syndrome is due to a) X chromosome deletion b)trisomy in 21 chromosome c) deletion in chromosome 5 d) all above incorrect
4	Oxidative phosphorylation in the cell occur at a)stroma b)matrix c) plastid d)mitochondria inner membrane
5	Position effect in bar eye of drosophila is type of ..... caused by .....
6-	Loss or gain of part of chromosome set called a)polyploidy b)euploidy c)haploidy d)aneuploidy
7-	Define the science of cytogenetics ....
8-	Pseudodominance is genetic effect of a)euploidy b)duplication c)delation d)inversion
9	Endocytosis occur in three ways of a) ..... B) ..... b) C).....

10-	Acentric chromosome fragment is a product of a)per centric inversion b) tandom duplication c)paracentric inversion d) terminal deletion
11-	Draw the artificial synthesis of hexaploid tritcale
12-	The haploid set of chromosome is known as ..... equal number of .....in human,..... in pisum and ..... in drosophila
13	A gene is ....
14-	Draw how to get triploid organism
15-	a) The nucleolus composed of .....and ..... help to .....
16	If you have species of AA and BB how to get the following 1-diploid hybrid ..... 2-allotetraploid..... 3-autoallooctaploid ....
17	The diagrammatic representation of chromosome set known as a)karyotype b)haploid number c)ideogram d)satellite

18-	Plastids in roots known as ..... and in flowers known as .....
19-	Types of translocations are 1-..... ..... 2-..... ..... 3-..... .....
20-	Transport across plasma membrane include the following 1- ..... 2- ..... 3- .....
21-	draw shift translocation in fig. 
22-	Monoploid species can obtained by 1-..... 2-..... 3-.....
23-	low DNA and large RNA area in chromosome known as a) euochromatine b)heterochromatin b) histone d)centromere
24	Draw how to get fertile amphidiploid tetraploid from AA, BB species
25	The nucleosome structure contain the following histones type a)2copies of H2A,H2B, H3 ,H4,H1 b) one copy of H2A,H2B,H3,H4,H1 c)2copies of H2A,H2B,H3,H4 +H1 d)146 nucleotides

26-	The longest stage in meiotic division is a)tetrad stage b)prophase 1 stage c)prophase 11 stage d) leptotene stage
27	Autoplyploidy in plants induced by 1-..... 2-.....
28	Nucleosomes connected each others by .....of .....base pair
29	synthesis of RNA takes place in cell cycle at a) metaphase stage b)synthesis phase c)G1 phase d)G2 phase
30	The pairing of homologous chromosomes at meiosis known as ... . and occur at ... . stage
31	Nominate the substages of prophase 1 stage a)..... B) ..... c) ..... d)..... e) .....
32	The polar movement of chiasma at diaknesis known as a)anaphase b)terminlization c)crossing over d)kinetochore
33	The rigidity of plasma membrane highly affected by a)fatty acids b)double protein layer c)cholesterol d) all above
34	The site of crossing over on chromosome is .....and occur at ..... stage .
35	Patau syndrome have ..... ,Edwards have .... and turner syndrome have .....chromosomes

End of exam Best of Luck Prof. Soliman Haroun

KAFRELSHEIKH UNIVERSITY
FACULTY OF SCIENCE
DEPARTMENT OF BOTANY
Third Year Students (Physiology & Archigonates)
Answer the following questions (25 marks)

A) Write the scientific term of the following: (5 Marks)

1. A phenomenon takes place when the Meiosis division can't take place and gametophyte is developed without spore formation.
2. A club– shaped structure consists of spermatogenous tissue that develops into several cubic sperm–mother cells
3. In it, the sex organs originate at the growing point of thallus that stop the growth of thallus.
4. Undifferentiated mass into root, stem and leaf
5. A vascular system of plants consist of xylem and phloem in association with parenchyma cells

B) Complete the following: (5 Marks)

1. In …….. the dominant stage in life cycle is the gametophyte, while the dominant stage is the sporophyte in……..
2. Archegoniates considered vascular plants except…… ……., and seeding plants except……and ……..
3. In some c Pteridophyts, sporangia occur in small or large groups on leaves called …….
4. ….A……..is the link between aquatic habitats and recent terrestrial plants and represented by ……., ……and……..
5. The spores of Pteridophytes are produced in special structures called …….. that are subtended by leaf-like appendages called ……..

C) By using a labeled diagram only illustrate the difference between structure of sporophyte in ***Riccia***, ***Marchantia***, ***Pellia*** **and** ***Anthoceros*** **(5 Marks)**

D) Anthocerophyta considered alink group. **Discus briefly.** **(5 Marks)**

E) **Put (√) or (×) and correct the wrong statement:** **(5 Marks)**

1. Metzgeriidae known as multiform thallose hepatics ( )
2. Amphigasteria is placed on the ventral side of sporophyte ( )
3. Epiphragm in *Polytrichum* performs the same function of Annulus ( )
4. Gymnosperm, are any vascular plant that reproduces by means of an covered protected seed ( )
5. Female ovulate cones of Gymnosperms, called megastrobili ( )

المستوى الثالث الفرقة الصباحية الأربعاء ١٠/١/٢٠١٨

Kafr El Sheikh University
Fac. Of Science
Bot. Department
1st Term/ January 2017/2018

Examiner: Dr. Awatef Saad

3rd level/ Botany
Course Title: Plant growth regulators
Time allowed: 2hrs
Points: 46

Plant Physiology section (46 points)

Answer the following

First Question

1- Complete the missing parts (8 points)

a) Went used *Avena sativa* (oat) coleoptiles in a technique called the ..... to estimate the concentration of auxin by measuring ……..

b) The 3rd stage of embryogenesis in most angiosperm called ..... where a further development of …… take place.

c) In the indole-3-acetonitrile (IAN) pathway, tryptophan is first converted to ..... and then to ..... according to the following equation .....

d) Because the membrane is less permeable to ……. than to ……., IAA that enters the cell will efflux via an ……

e) The analysis of the motions of tissue elements is called ……

f)…….. are autophosphorylating protein kinases since they are the photoreceptors for ……..

2- Define the following physiological terms (8 points)

- Leaf Abscission
- Conjugate auxins and cytokinins
- Acid growth hypothesis
- Double fertilization

Second Question: Answer the following (30 points)

a) What is meaning by embryo dormancy? Discus the role of ABA in dormancy.

b) Write two evidences that ensure the role of cytokinins in regulation of each of the following phenomena: a) Cell division, b) Leaf Senescence and c) Apical Dominance

c) By aid of labeled drawing only show the development of axial pattern of embryo?

d) What is meaning by statoliths? Explain the role of statoliths in geotropism. phenomena.

e) Can ABA be inactivated? Explain.

Best Wishes

Faculty of science Department of Botany	Final Exam 1st semester(2017-2018)	Time allowed: 2hrs
	Third year students (Botany)	Total score:70+20+10
	Course Code: B 309	Date:31/12/2017
	Bacteriology and immunology	
	Staff Course: Dr Ragaa Hamouda	
		Kafer El-Sheikh University

Second question: Compare between **Score (15)**

1- Endotoxins and exotoxins
2- Primary and Secondary Immune Response
3- Gram positive and Gram negative bacteria

Third question Define: **Score (10)**

1. Log phase-2. Virulence 3. Epitope 4. Interferon-5.Disinfection 6-Concept of Immunity7- Generation time 8. Minimum Temperature-9. Silent mutation-10. Acute Infection

Forth question Discuss: **Score (25)**

1-Factor affecting in lag phase

2- Factors influence the effectiveness of antimicrobial treatment

3-Antibody Structure

4-Transformation

5-Conjugation

Fifth question Classify **Score (10)**

1- Microorganisms according to temperature requirements

2-Microorganisms based on O_2 utilization

With best wishes

Faculty of science Department of Botany	Final Exam 1st semester(2017-2018) Third year students (Botany)	Time allowed: 2hrs Total score:70+20+10
	Course Code: B 309 Bacteriology and immunology	Date:31/12/2017
	Staff Course: Dr Ragaa Hamouda	Kafer El-Sheikh University

Instructions of Exam:

1. Answer the obligatory questions.
2. Use the blue pen and pencil in answer sheet
3. Allow one sheet answer for every student
4. Is not allowed to borrow the tools (pen, pencils, drawing tools, calculator …etc)
5. Is not allowed to use the cell phone or any of its application during the time of exam

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First question: Complete the following **Score (10)**

1-... .....are filamentous protein structures attached to the cell surface that provide the swimming movement for most motile prokaryotes

2-..... is a polysaccharide consisting of alternating amino sugars (N-acetyl glucosamine (NAG) and N-acetyl muramic acid (NAM)) linked by Beta 1-4 bonds like those in cellulose

3- Most of .....bacteria are neutrophiles

4- There are 64 codons, of which 3 (UAA, UAG and UGA) are .....codons

5- ..... are kind of white blood cells, which devour bacteria, viruses, dead cells and dust grains

6- With the exception of ..... all amino acids are coded for by more than one codon

7- Organisms which tolerate high solute called .....

8- ..... organisms that grow best at low pH

9- Chromosome aggregated in a dense area called.....

10- Pili are found only in gram.....cells

Date : First semester 2017
Time : 2 hrs.
Exam : Mycology
3rd degree

Kafr El Sheikh university
Faculty of sciences
Botany department

Answer the following questions

First question: **Put (√) in front of the correct sentence and (X) in front of incorrect sentence:** **(20 Marks)**

1. ( ) Zoospores having the ability to sense chemicals diffusing from suitable substrata.
2. ( ) *Rhizopus* sp. produces septate root-like hyphae called rhizoids.
3. ( ) Chlamydospores are formed sexually.
4. ( ) The vegetative state of eumycota is amoebaed in the cellular slime moulds.
5. ( ) Acrasiomycetes, Hydromyxomycetes, Ascomycetes and Plasmodiophoromycetes are classes of Myxomycota.
6. ( ) *Taphrina deforms* is facultative parasite.
7. ( ) The vegetative phase of *Dictyostelium discoideum* is a free-living plasmodium.
8. ( ) Plasmogamy and karyogamy take place in the life cycle of *Plasmodiophora brassicae*.
9. ( ) Zygomycotina fungi forms coenocytic mycelium.
10. ( ) Deuteromycotina haven't sexual reproduction process.

The exam in two pages.

Second question: Write an essay on two of the following: (20 Marks)

1. Zoospore types
2. Clump connection in basidiomycotina
3. General characteristics and classification of Mastigomycotina.
4. Types of ascocarps

Third question: Draw the life cycle of the following: (30 Marks)

1. *Puccinia graminis tritici*
2. *Dictyostelium discoideum*

Best wishes

Dr. Yasser H. El Sayed

Kafr Elsheikh University **Faculty of Science**		**Level: Three** **Program: Botany & Zoology**
Time allowed: 2 hours	**1st Term 2017/2018**	**Chromatographic methods**

Answer the following questions:

First question

Fully compare between silica gel and alumina in TLC.

(10 marks)

Second question

Give the reason for:

(1) PC is not simply adsorption chromatography.

(2) In electrophoresis, concentration of the used buffer should be within 0.05 – 0.10 M.

(3) The particle size of adsorbent in TLC should be 10 – 25 µm, while in column chromatography > 150 µm.

(4) Electrophoresis experiment should be enclosing in an airtight cover.

(20 marks)

Third question

a) Define each of the following:

(Isoelectric point – Partition coefficient – Retention factor)

b) What are the types of ion exchange resin and what are the properties desirable in resins used in chromatography? How ion exchange capacity could be practically estimated?

(20 marks)

Fourth question

Write in details about:

a) Factors affecting the migration rate in electrophoresis.

b) Physical & chemical methods of location of uncolored spots in TLC.

(20 marks)

Best wishes…