

Student name:  
University ID:

Kafrelsheikh University  
Faculty of Fisheries  
Date: / / 2019  
Autumn Exam (2018-2019)



Subject: Aquatic Invertebrates  
Time: 2 hours 10:00 – 12:00  
Level: the first.  
Answer sheet exam is 4 pages

المستوى الأول  
الوقت 2 ساعة

Choose the right answer

(50 marks)

1	(1) (2) (3) (4) (5)	14	(1) (2) (3) (4) (5)
2	(1) (2) (3) (4) (5)	15	(1) (2) (3) (4) (5)
3	(1) (2) (3) (4) (5)	16	(1) (2) (3) (4) (5)
4	(1) (2) (3) (4) (5)	17	(1) (2) (3) (4) (5)
5	(1) (2) (3) (4) (5)	18	(1) (2) (3) (4) (5)
6	(1) (2) (3) (4) (5)	19	(1) (2) (3) (4) (5)
7	(1) (2) (3) (4) (5)	20	(1) (2) (3) (4) (5)
8	(1) (2) (3) (4) (5)	21	(1) (2) (3) (4) (5)
9	(1) (2) (3) (4) (5)	22	(1) (2) (3) (4) (5)
10	(1) (2) (3) (4) (5)	23	(1) (2) (3) (4) (5)
11	(1) (2) (3) (4) (5)	24	(1) (2) (3) (4) (5)
12	(1) (2) (3) (4) (5)	25	(1) (2) (3) (4) (5)
13	(1) (2) (3) (4) (5)		

Maximum Mark	Student Mark	Signature
50		

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Choose the right answer:

(50 marks)

2 marks

1. autotrophs

1. require ready-made food material from other sources.
2. obtain nutrition by diffusion through general body surface.
3. synthesize organic substances from inorganic nutrients utilizing chemical energy (chemoautotrophs) or radiant energy (phototrophs).
4. 1 and 2
5. 2 and 3

2. The function of the muciferous bodies beneath the Euglena's pellicle is

2 marks

1. detecting light
2. adjusting osmosis
3. lubricating myonemes.
4. 1 and 2
5. none of the above.

3. During unfavorable conditions, Euglena commonly reproduces by

2 marks

1. longitudinal binary fission.
2. transverse binary fission.
3. multiple fission.
4. 1 and 2.
5. none of the above.

4. The infraciliary structure is a unique character of

2 marks

1. Amoeba
2. only deuterostomes
3. both protostomes and deuterostomes
4. neither protostomes nor deuterostomes
5. Paramecium

5. Cells became organized as tissues in

2 marks

1. Protista
2. Parazoa
3. Metazoa
4. 1 and 2
5. None of the above

6. A flatworm's gut is enclosed by a mass of tissues, so it belongs to

2 marks

1. pseudocoelomates.
2. coelomates.
3. acoelomates.
4. 1 and 2.

5. none of the above.
7. Movement of water and its resources within sponge body is **2 marks**
1. one direction (from ostia to osculum)
  2. one direction (from osculum to ostia)
  3. two directions (from ostia to osculum and the opposite).
  4. all of the above.
  5. none of the above.
8. Digestion in sponges is **2 marks**
1. extracellular.
  2. intracellular and extracellular.
  3. intracellular.
  4. all of the above.
  5. none of the above.
9. Gemmules are produced by **2 marks**
1. Planula larva
  2. Jelly fish
  3. Marine sponge
  4. Freshwater sponge
  5. None of the above
10. Tentacle-ringed mouth which opens onto a saclike gastrovascular cavity that serves in digestion and gas exchange is a specific character of **2 marks**
1. Nematode
  2. Rotifera
  3. Cnidaria
  4. Platyhelminthes
  5. None of the above
11. Mesoglea is **2 marks**
1. a layer of cells located intermediately between ectoderm and endoderm.
  2. a jelly-like, acellular secreted matrix located intermediately between ectoderm and endoderm.
  3. a jelly-like, acellular secreted matrix underneath endoderm
  4. 1 and 2.
  5. none of the above.
12. The muscular planarian's pharynx is for **2 marks**
1. only sucking the food.
  2. only expelling wastes
  3. 1 and 2.
  4. respiration
  5. None of the above
13. Which group of animals has these characters (bilateral symmetry, coelomates and segmented, inside and out) **2 marks**
1. platyhelminths
  2. annelida

20. What structure is used by aquatic nematodes to stick themselves to the substratum?

2 marks

1. Suckers
2. Caudal glands in the tail region
3. nematocyst
4. pharynx
5. flame cells

21. Crustaceans have

2 marks

1. eight pairs of legs, no antennae, 1 or 2 body regions (cephalothorax and abdomen).
2. four legs per segment and are long thin herbivorous slow-moving animals.
3. ten or more legs in pairs, two pairs of antennae, two main body regions (cephalothorax and abdomen).
4. two legs per segment and are long thin predators, very fast hunters.
5. none of the above

22. Madreporite is

2 marks

1. a part of the circulatory system in echinodermata.
2. a part of the water vascular system in echinodermata.
3. a part of the excretory system in Rotifera.
4. a part of the reproductive system in annelida.
5. (1) and (2) but not (3).

23. Cephalopods belong to

2 marks

1. ciliophora
2. copepoda
3. sarcodina
4. mollusca
5. none of the above

24. The echinoderm larval stage is

2 marks

1. radially symmetrical
2. bilaterally symmetrical
3. asymmetrical
4. all of the above
5. none of the above currents.

25. The toughest animals are

2 marks

1. Nematoda
2. Annelida
3. Tardigrada
4. Arthropoda
5. Protista

**End of Exam.**



3. mollusca
4. echinodermata
5. all of the above.

14. Tardigrades do not have 2 marks

1. digestive system
2. circulatory system
3. excretory organs
4. 1 & 3
5. all of the above.

15. Nematocysts characterize 2 marks

1. Rotifera
2. Nematode
3. Tardigrade
4. Coelenterate
5. None of the above

16. The solute composition and volume of coelomic fluid in annelida is regulated by the 2 marks

1. flame cells.
2. medusa.
3. nephridia.
4. water expelling vesicle.
5. none of the above.

17. Cephalization started in 2 marks

1. roundworms
2. Mollusca
3. flatworms
4. sponges
5. Cnidaria

18. Annelida exchange gases through 2 marks

1. lungs
2. diffusion
3. water vascular system
4. prostomium
5. peristomium

19. Sponges are 2 marks

1. terrestrial creatures.
2. aquatic creatures.
3. parasitic creatures.
4. 1 and 2.
5. 1 and 3.



Choose the correct answer (1 point each):

- The molecules of a gas A travel four times faster than the molecules of gas B at same temperature. The ratio of molecular weights ( $M_A / M_B$ ) is  
(A) 1/16 (B) 4 (C) 1/4 (D) 16
- Which of the following pair will diffuse at the same rate?  
(A)  $CO_2$  and  $N_2O$  (B)  $CO_2$  and  $NO$  (C)  $CO_2$  and  $CO$  (D)  $N_2O$  and  $NO$
- According to Charles Law, if you have a balloon inside a car at noon during a hot summer day the balloon molecules inside will increase in pressure.  
A- True B. False
- In a nitrogen gas occupies has a volume of 500ml at a pressure of 0.971atm. What volume will the gas occupy at a pressure of 1.50 atm, assuming the temperature remains constant?  
A. 342mL B. 424mL C. 324mL D. 442mL E. 242mL
- Not all Gas Law problems have Kelvin (K) as the unit of temperature. They can be expressed in Celsius ( $^{\circ}C$ ) and Fahrenheit ( $^{\circ}F$ ). So convert  $123^{\circ}C$  to K.  
A. 396K B. 486K C. 369K D. 458K E. 693K
- At a pressure of 5.0 atmospheres, a sample of gas occupies 40. liters. What volume will the same sample occupy at 1.0 atmosphere?  
A. 0.0050 L B. 0.13 L C. 200 L D. 8.0 L
- As the volume of confined gas decreases at constant temperature, the pressure exerted by the gas \_\_\_\_\_.  
A. Decreases B. Increases C. Stay the same D. Fluctuates
- A sample of argon has a volume of 0.43 mL at 299K. At what temperature in degrees Celsius will it have a volume of 1 mL.  
A.  $695^{\circ}C$  B.  $422^{\circ}C$  C.  $428^{\circ}C$  D.  $694^{\circ}C$
- A good example of Charles Law is when a piece of metal expands in the heat  
A. True B. False
- Assuming that the temperature remains constant. How can you increase the pressure of a gas?  
A. Increase the container volume B. Add more molecules of the gas  
C. Decreases the container volume D. None of the above
- At constant pressure and  $25^{\circ}C$  a sample of gas occupies 4.5 liters. At what temperature will the gas occupy 9.0 liters?  
A. 596K B. 50K C.  $50^{\circ}C$  D.  $596^{\circ}C$
- You drove continuously from Cairo to Kafrelsheikh and you observed that the pressure in your tires increased. This is because of the increased temperature outside the tire caused by friction.  
A. True B. False
- When a supply of hydrogen gas is held in a 4-liter container at 320 K it exerts a pressure of 800 torrs. The supply is moved to a 2-liter container, and cooled to 160 K. What is the new pressure of the confined gas?  
A. 800 torr B. 1600 torr C. 200 torr D. 400 torr
- Which is Gas Law involved when a balloon pops after being sat on?  
A. Charles Law B. Boyle's Law C. Law of Pressure Gradient

15. A small sample of helium gas occupies 6 mL at a temperature of 250 K. At what temperature does the volume expand to 9 mL?  
 A. 125K      B. 375K      C. 500K      D. 2250K
16. Organize the following gasses in order of their rates of diffusion from slowest to fastest  
 A.  $H_2, O_2, CO_2, NH_3$     B.  $O_2, H_2, CO_2, NH_3$     C.  $H_2, NH_3, O_2, CO_2$     D.  $CO_2, O_2, NH_3, H_2$
17. Arrhenius defined an acid as:  
 (a) a species that can donate a proton.    (b) a species that can accept a proton.  
 (c) a source of  $OH^-$  ions in water.    (d) a source of  $H^+$  ions in water.
18. In the Bronsted-Lowry system, a base is defined as:  
 (a) a proton donor.    (b) a hydroxide donor.    (c) an electron-pair acceptor.  
 (d) a water-former.    (e) a proton acceptor.
19. In the equation:  $HF + H_2O \rightleftharpoons H_3O^+ + F^-$   
 (a)  $H_2O$  is a base and  $HF$  is its conjugate acid.    (b)  $H_2O$  is an acid and  $HF$  is the conjugate base.    (c)  $HF$  is an acid and  $F^-$  is its conjugate base.    (d)  $HF$  is a base and  $H_3O^+$  is its conjugate acid.
20. For the system shown here:  $HOBr + OH^- \rightleftharpoons H_2O + OBr^-$   
 Bronsted would classify the base species as:  
 (a)  $OH^-$  and  $HOBr$     (b)  $H_2O$  and  $OH^-$     (c)  $OBr^-$  and  $OH^-$     (d)  $OBr^-$  and  $HOBr$
21. According to the Lewis theory, a base \_\_\_\_\_  
 (a) is a proton acceptor.    (b) is a proton donor.  
 (c) makes available a share in a pair of electrons.    (d) accepts a share in a pair of electrons.
22. The pOH of a solution of NaOH is 11.30. What is the  $[H^+]$  for this solution?  
 (a)  $2.0 \times 10^{-3}$     (b)  $2.5 \times 10^{-3}$     (c)  $5.0 \times 10^{-12}$     (d)  $4.0 \times 10^{-12}$     (e)  $6.2 \times 10^{-8}$
23. What is the approximate pH of a solution labeled  $6 \times 10^{-5}$  M HBr?  
 (a) 4.2    (b) 4.5    (c) 5.8    (d) 9.8
24. The pH of a solution is 4.80. What is the concentration of hydroxide ions in this solution?  
 (a)  $4.2 \times 10^{-9}$  M    (b)  $1.6 \times 10^{-5}$  M    (c)  $3.6 \times 10^{-12}$  M    (d)  $6.3 \times 10^{-10}$  M
25. The total pressure of a mixture of gasses  $H_2, NH_3, O_2, CO_2$  equal to  
 a) sum of  $H_2, NH_3, O_2, CO_2$     b) sum of  $H_2, O_2, CO_2$     c)  $H_2, NH_3, O_2$     d) difference between  $H_2, NH_3, O_2, CO_2$
26. Discuss factors that affect vapour pressure of the gas (10 points).
27. Draw the neutralization curve for the titration of  $H_3PO_4$  by NaOH and deduce the used indicator (5 points).
28. Write in details how buffer solution such as  $CH_3COOH/CH_3COONa$  resist the pH change after addition of HCl and NaOH (10 points).

*With my best wishes*

*Dr. Hamdy El.Sheshtawy*



El-Sheikh University

Faculty of Fisheries

First Year

Subject: English

Name: .....



Date: 23/01/2019

Time Allowed: 2 Hr

Total Mark: 60

Final Exam, 1 Page

Academic Number: .....

**I-Answer the following questions:**

- 1-Why do scientists want to learn more about sharks?
- 2-What are the two types of sharks?
- 3-What are some examples of religious reasons why people do not eat certain food?
- 4-What can happen when children do not exercise?
- 5-What do the crowds do during the marathon?

**II-Fill in the blanks with suitable words or expressions from the list:**

(teenage- fitness- risks- two past nine-rare- disbelief-cheer- shock- habits-early morning- two oh nine-foreign- permission)

- 1-Cancer is very.....in sharks.
- 2-"At dawn" means.....
- 3- "Indispensable" means.....
- 4- Alice enjoys trying new, exciting activities. She really likes to take.....
- 5- Sometimes we need to change our eating.....
- 6- Good physical condition is called.....
- 7- The crowds.....when they watch baseball games.
- 8- Girls from 13 to 19 are.....
- 9- "I was stunned by" is used to express.....
- 10-In telling the time, the digital way for 2.09 is.....

**III-Correct the verbs between brackets:**

- 1- They (start) building their new house 18 months ago.
- 2- I (write) three letters already.
- 3- After I (leave) a message, he (hear) me.
- 4-If it had rained, you (get) wet.

**IV- Translate the following text from English into Arabic:**

The first step is to feel positive about learning English. If you believe that you can learn, you will learn. Be patient. You do not have to understand everything all at once. It is natural to make mistakes when you learn something new. We can learn from our mistakes. In other words, do not worry about taking risks.

**V- Write on ONE only of the following:**

- 1-The importance of exercise for children
- 2-Sharks: Useful Hunters of the Sea

**Best of Luck**  
**Dr Ayman Elhalafawy**



Final exam during academic year 2018/2019

**Please answer the following questions: (50 marks).**

❖ **First question: Complete the following sentences (20 marks):**

- 1) The most important periods in which the fish are developed were .....
- 2) ..... are first vertebrates appeared on the surface of the earth.
- 3) Most fish have ..... fins.
- 4) Freshwater food fishes like .....
- 5) Fishes such as ..... are used to extract oil from their liver.
- 6) Fish liver oil is enriched in .....
- 7) Top minnows fish was .....
- 8) In different cartilaginous fishes like ..... poisonous glands are present.
- 9) ..... one of the world's top consumers of captured and farmed aquatic animal food products.
- 10) Aquatic animal food production increasing at an average annual rate of .....% since 1970.
- 11) Most fish supplied by aquaculture were ..... fish species.
- 12) Per capita supply of farmed aquatic meat has been increasing at an average annual rate of .....% since 1970.
- 13) Aquatic animal proteins are rich dietary sources of .....
- 14) Global fishery production in marine waters was ..... million tones in 2014
- 15) World aquaculture production of fish accounted for ..... % of total production in 2014.
- 16) ..... is the largest exporter of fish and fishery products.
- 17) In the medium to long term, the major challenge facing marine fisheries is .....
- 18) The Arab States have access to two major oceans, .....
- 19) Most of the Arab States capture fish production is attributed to .....
- 20) Total Arab fish landings from capture about ..... % and aquaculture about ..... %.
- 21) ..... in the Egyptian delta region are the main fish producing water bodies.
- 22) Only .....% of all Earth's water is freshwater.
- 23) Lentic water systems are ....., while lotic water systems are characterized by ..... Water.
- 24) Fisheries can be ..... or .....
- 25) The ..... is the second-largest ocean.

❖ **Second question - Writing about: (15 marks).**

- A) What are the risks and benefits of fish consumption?
- B) Fisheries sector contribution to reduce child mortality (Explain)?
- C) Aquaculture sector facing many challenges, what it is in your opinion?

❖ **Third question (10 marks): Explained by only drawing with writing data.**

- A) Evolution of Fish.
- B- World fish utilization and supply.

With my best wishes  
Prof. Dr. Malik M. Khatafalla



First term exam during academic year 2018/2019

1-Complete the following:

[ 10 Marks]

- 1) Bacteria four major shapes are 1- ..... 2- ..... 3- ..... 4- .....
- 2) ..... are organisms without true nucleus while Eukaryotes have true .....
- 3) Bacterial genetic elements include 1- ..... and 2- .....
- 4) Viruses consist of a ..... core surrounded by a ..... coat.
- 5) Sexual spore of fungi include 1- ..... and 2- .....

2-Choose the correct answer:

[ 10 Marks]

- 1) Introns are large non-coding regions between each gene in ( Prokaryotes - Eukaryotes ).
- 2) Fungal cell wall is composed of ( Pilins - Chitin or cellulose - Phospholipids and proteins ).
- 3) Bacteriophage is a ( Virus - bacterium - Fungus ).
- 4) Bacterial flagella are organs of ( locomotion - Respiration - Multiplication ).
- 5) Bacterial endospores are highly resistant to ( Heat - Chemical agents- Both of them ).
- 6) Deuteromycetes [ Hyphomycetes ] are ( Perfect - Imperfect - Dimorphic ) fungi.
- 7) Virulence toxic factors include ( Endotoxins - Respiration - Flagellin ).
- 8) Flexibacter columnaris causes fish ( Saprolegniasis - Vibriosis - Saddle back disease ).
- 9) Virion is a complete ( Bacterial - viral - Fungal ) particle.
- 10) Branchiomyces demigrans is ( Gram positive - Gram negative - Fungal ) fish pathogen.

3-Mark the following sentences with (v) or (x):

[ 5 Marks]

- 1) Bacterial nucleoid consists of a single circular haploid chromosome . ( )
- 2) Mesosomes are convoluted invaginations of the bacterial cell wall ( )
- 3) Pili types according to function are Ordinary pili and Sex pili ( )
- 4) fungi are responsible for several diseases of animals including human and fish ( )
- 5) Vibrio anguillarum causes Infectious Pancreatic Necrosis (IPN) ( )

4-Write short notes on:

[ 15 Marks, 5 each]

- 1) Archaea general characters.
- 2) Bacterial growth phases.
- 3) Pathogenicity.

5-Enumerate the following:

[ 10 Marks, 5 each]

- 1) Functions of the bacterial cell wall
- 2) Gene transfer methods in bacteria .

WITH MY BEST WISHES

DR. AMANY DIAB

المستوى الأول  
حصار وصيف



Kafrelsheikh University      Date: 2 - 1 - 2019      Time allowed: 2h  
 Faculty of Aquatic and Fisheries Sciences      First Level  
 Subject: Descriptive statistics      Full Mark (50)      Final Exam: 2 pages

Answer the following questions:

(1)(a) The following data represent the length of life, in seconds, of 35 fruit flies subject to a new spray in a controlled laboratory experiment. From these data construct the frequency distribution table then find the standard deviation.

4	10	11	5	7	8	1	6	4	12	11	3	6	16	2
14	11	6	4	9	17	3	2	1	8	13	8	11	18	1
8	12	9	3	18										

(b) The following table shows how 8 students were ranked according to their achievements in both the laboratory(x) and lecture(y) portions of biology course.

x	2	4	5	7	9	10	12	15
y	2	3	5	5	6	8	9	10

(i) Find the correlation coefficient and interpret the association between x and y.      (ii) Find the value of y when x = 11

(2)(a) Pollution of the rivers has been a problem for many years. Consider the following random events:

A: the river is polluted,      B: a sample of water tested detects pollution,  
 C: fishing is permitted.

Assume  $P(C) = 0.3$ ,  $P(A|C) = 0.4$ ,  $P(A|\bar{C}) = 0.31$ ,  $P(B|C) = 0.75$ ,  $P(B|\bar{C}) = 0.2$

Find (i) the probability that the river is polluted or fishing is permitted or both.  
 (ii) the probability that a sample of water tested detects pollution

(b) If X is a random variable which has the probability function

x	0	2	3	c	5
f(x)	0.2	0.1	0.3	0.1	0.3

and  $E(X^2) = 12.2$

Find (i) the constant c      (ii) F(x)      (iii)  $E(4X-1)$       (iv)  $\text{Var}(-3X-6)$



(c) If a random variable  $X$  is defined such that  $E[(X+1)^2]=10$  and  $E[(X-1)^2]=6$ .

Find  $\mu$  and  $\sigma^2$  of the random variable  $X$ .

- (3)(a) Suppose that in a certain city, the probability that a man has high blood pressure is 0.4. If we randomly select nine men from this city find the probability that:
- (i) exactly 4 men have high blood pressure.
  - (ii) between one and eight inclusive will have high blood pressure.
  - (iii) seven or fewer men have high blood pressure.

(b) Choose the correct answer:

1- Let  $A$  and  $B$  be mutually disjoint random events, then  $P(A \cap B) = \dots$

- (a) 1                      (b) 0.5                      (c) 0

2- The set of all possible outcomes of the random experiment is said to be

- (a) Population              (b) Sample              (c) Sample space

3- The correlation coefficient  $r$  satisfy

- (a)  $r \geq -1$               (b)  $-1 \leq r \leq 1$               (c)  $r \leq 1$

4- For the sample values: 2, 3, 5, 9, 1, 8 the sample median is ...

- (a) 7                      (b) 4                      (c) 5

5- Let  $X$  be a binomial random variable with parameters  $n=4$  and  $p=0.3$  then  $E(X)=\dots$

- (a) 1.2                      (b) 12                      (c) 0.12

6- If the random variable  $X$  has a mean  $E(X)=6$ , then the random variable  $Y=3X+2$  has mean

- (a) 20                      (b) 18                      (c) 54

Best Wishes, M.M.Khalifa





Answer the following questions:

1- Define the following : ( 8 marks).

- 1- Aggregate stability. 2- Sludge. 3- SAR. 4- TDS in water.  
5- Surface tension. 6- POPs in water. 7- HAB. 8- Alien species

2- Why the following: ( 12 marks).

- 1- Presence of chloride anions in natural water. 2- Evaporation.  
3- Water take a concave shape in a tube. 4- Ice formation.  
5- The actual pressure could vary slightly among different water of the same depth. 6- Viscosity of water.

3- How can you proof that : ( 10 marks).

There is reversal relationship between the length of liquid in a tube and the density of liquid & diameter of tube ?

4- Compare between the following: ( 10 marks).

- 1- BOD & COD. 2- Blocky & Granular aggregates.  
3- soil texture & soil structure. 4- Infiltration & percolation.  
5- Local flow system & Regional flow system of ground water.

5- Write on the following : ( 10 marks).

- 1- Soil weathering. 2- Pore space in the soil.  
3- Factors affecting water quality. 4- Hardness of water.

Good luck  
Dr. Mohamed Mamdoh

المستوى الثاني  
مادة مقرمه  
Kafrelsheikh Uni.  
Fac. Of Aquatic and Fisheries Science



Date: 3/1/2019  
Time: 2 hours  
Total marks: 50  
Academic Number:

Level: 2  
Subject: Introduction to Food Science and Technology  
Name:

Final exam during academic year 2018/2019

Board of examiners: Prof. Dr. Samir Metwally, Prof. Dr. Abd-Elbaset Salama, Prof. Dr. Amin K. Ammar.

**Answer the following questions:**

(15marks)

**First question:**

**A- Define:**

Food - Food canning - Stable foods - protein - Food spoilage.

**B- Mention:**

- 1- Function of food.
- 2- Causes of food spoilage
- 3- Principles of food preservation
- 4- Steps of food canning.
- 5- Examples of natural and chemical food preservatives.

(15 marks)

**Second question:**

**A- Mention the propose of:**

- 1- Grading of preparing fruit and vegetables for preservation.
- 2- Adding sugar and salt solutions in canning food.
- 3- Adding preservatives to food preservation.
- 4- Thermal processing in food canning.

**B- Complete the following sentences**

- 1- Fish oil are rich in energy and ..... soluble vitamins.
- 2- Yeast generally prefer ..... acidic foods.
- 3- When the temperature raises the time of sterilization .....
- 4- Alcoholic fermentation which converts ..... to producing alcohol and ..... by ..... cells.
- 5- Sweetners are high sweet taste such as .....

(20 marks)

**Third question:**

**A- Define:** British thermal unit (BTU) - latent heat of fusion - Function food.

**B- Choose the correct answer from the brackets:**

- 1- The food division dairy products, protein foods, fruits and vegetables, food carbohydrates belong to.  
a- (The first group), b- (The second group), c- (The third group)
- 2- Intended to heat transfer by hot particles where the hot rises and replaced by the cold part, that in fluid.  
a- (Conduction), b- (Radiation), c- (Connection)
- 3- Increases the pressure on the liquid consists of gas  
a- (Compressor), b- (Condenser), c- (Expansion valve)
- 4- Regulates the amount of fluid flowing into the evaporator  
a- (Compressor), b- (Condenser), c- (Expansion valve)
- 5- Spray dryers used to drying.  
a- (Liquid foods), b- (Solid foods), c- (Semi liquid foods)
- 6- The Energy activity of office workers and a large proportion of the use of modern technology.  
a- (Energy activity is limited), b- (Energy average activity), c- (Energy activity thumping)
- 7- This processes Lead to a reduction of microbial and enzymatic activity  
a- (freezing), b- (cooling), c- (Thawing)

,,, Good Luck ,,,

Dr. Amin K. A.

Dr. A. Salama

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Khalifa University  
Faculty of Aquatic and Fisheries Science  
Department of Fish processing and Biotechnology  
Subject: Aquatic Biology  
Time Allowed: 2 hours  
Code: 0110114



Full marks: 50  
Date 10/1/2019  
Pages (1)

Answer the following questions:

**1. First question**

( 20 degrees)

- Mention the link between aquatic and terrestrial ecosystem
- Deforestation is one of the major threats on Africa's aquatic ecosystems. Explain.

**2. Second question**

(30 degrees)

- Explain the physiological changes due to low oxygen in aquatic ecosystems (10 degrees)
- Based on the quantity of various foods and frequency of consumption by the fish, mention different food items. (10 degrees)
- There are five conditions to determine whether the species is critically endangered or not. mention (5 degrees)
- Pollution is a major threat of aquatic biodiversity, explain. (5degrees)

جامعة كفر الشيخ

كلية علوم الثروة السمكية

تاريخ الامتحان: ٢٠١٩/١/١٧

الدرجة العظمى: ٦٠ درجة



المستوى الثاني

الفصل الدراسي الأول ٢٠١٨/٢٠١٩

المادة: مهارات واخلاقيات البحث العلمي

الزمن: ساعتان

أجب عن الأسئلة الآتية:

السؤال الأول:

- أ- ناقش أهمية وفوائد التوثيق في البحث العلمي؟
- ب- ما أهمية الدراسة الاستطلاعية عند إعداد البحث العلمي؟
- ج- ما هي المهارات الواجب توافرها في الباحث الجيد؟
- د- اذكر كيفية كتابة المراجع (references) في البحث العلمي.

السؤال الثاني:

- أ- "يقود البحث العلمي الأمم إلى التقدم والرفعة" ناقش هذه العبارة ثم اذكر معوقات البحث العلمي في الدول النامية.
- ب- وضح كيفية تشكيل اللجنة الدولية للأخلاقيات الحيوية وكنتك مياحيا المنوط لها القيام بها.

السؤال الثالث:

- أ- اذكر مع الشرح الاعتبارات الأخلاقية في البحث العلمي.
- ب- عرف الاقتباس في البحث العلمي وأواعه وحدوده؟
- ج- اذكر شروط الشكر وكيفية كتابته في كل من البحث العلمي والرسالة العلمية.

خالص التمنيات بالنجاح والتوفيق



تكنولوجيا تصنيع الأعلاف  
المسوّدة الثاني

Kafr El-Sheikh University  
Faculty of Aquatic and Fisheries Sciences  
Department of Aquaculture

Subject: Feed Manufacturing Technology

Time: 2 hours

Date: 21/1/2019

Level: Two



Final exam during academic year 2018/2019

Please answer the following questions: (50 marks).

❖ **First question: Complete the following sentences (30 marks, one mark for each point):**

- 1- The major components of feedstuffs are .....
- 2- ..... are the major nitrogen-containing compounds.
- 3- Amino acids are need for .....
- 4- Lipids are a major source of .....
- 5- Coldwater species appear to have a greater requirement for the ..... fatty acids than warm water species.
- 6- Carbohydrates include .....
- 7- Carnivorous fish are ..... converters of carbohydrate.
- 8- Many fish do not have the enzyme ..... which is necessary for the digestion of cellulose.
- 9- ..... are a cheap source of energy for non-predatory fish.
- 10- The most common vitamin deficiency in fish nutrition is that of .....
- 11- ..... are the main component of the skeleton and teeth.
- 12- Energy can be defined as .....
- 13- Dried grasses contains vitamins of the .....
- 14- Corn gluten meal is higher in ..... and lower in ..... content
- 15- If fish meals are undercooked, causing .....
- 16- Seaweeds are a source of .....
- 17- Pigments use to enhance ..... in the flesh of ..... fish
- 18- ..... is an essential part of your feeding programme.
- 19- Choose ingredients which are .....
- 20- Simple mixtures are often made where .....
- 21- Moist balls diets have been used successfully for .....
- 22- Cooking method has advantage of .....
- 23- In moist feed mixing the moist ingredients should be added .....
- 24- Particle size of pellets for most fish range from ..... in diameter.
- 25- Cereals will store quite well at ..... moisture.
- 26- Vitamins stocks should be changed at least every ..... months.
- 27- Fish silage is defined as a .....
- 28- During making fish silage, fresh fish liquefy ..... than stale fish.
- 29- Silage made from fresh white fish offal takes about ..... at 10°C.
- 30- ..... acid, is a good choice for use to making fish silage.

❖ **Second question: (20 marks, 4 marks for each point).**

- A- Fish have a low body maintenance requirement (Why)?
- B- What factors effect on the nutritional needs of vitamins?
- C- What are the reasons that make you change the installation of the diet?
- D- What are the major factors which affect the quality and weight of feedstuffs during storage?
- E- Explained by only drawing with writing data a simple system for the manufacture of fish silage?

With my best wishes

Prof. Dr. Malik M. Khalafalla



**Question 1:**

(25 marks, (1-11) 2 marks (12) 3 mark)

Answer the following questions:

1. Why is it often useful to express population parameters such as birth and death rates on a *per capita* basis?
2. If you know that the annual per capita birth rate is 0.034 and the population size is 500, calculate the absolute number of births expected in that population per year?
3. What is meant by carrying capacity?
4. What is meant by the Intertidal Zones?
5. What do the most exhibited morphological adaptations plankton have?
6. Mention the two main factors largely determining the nutrient content of streams and rivers?
7. What is the thermocline?
8. Why there are usually more than 10 times as many prey animals, as there are predators?
9. What is the primary production?
10. When can we call any factor as a limiting factor?
11. Studying how community structure and organization are changed by interactions among living organisms is called ----- Give expression?
12. What are the major communities in the limnetic zone?

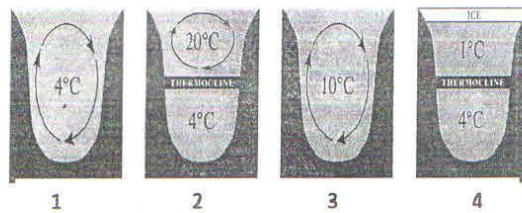
**Question 2:**

(25 marks, (1-7) 3 marks (8) 4 mark)

Choose the right answer or answers:

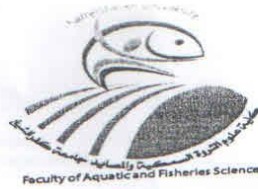
1. A positive lower population *per capita rate of increase* ( $r$ ) means
  1. a population is decreasing at a slower per capita rate.
  2. a population is increasing at a slower per capita rate.
  3. a population is decreasing at a faster per capita rate.
  4. a population is increasing at a faster per capita rate.
  5. a population is stable.
2. Carrying capacity, symbolized as  $K$  is a property of the environment.
  1. It varies only over space with the abundance of limiting resources.
  2. It varies only over time with the abundance of limiting resources.
  3. It varies over space and time with the abundance of limiting resources.
  4. None of the above.
  5. All of the above.
3. The uppermost zone of the rocky intertidal zone, is submerged only during
  1. the low tide
  2. the high tide
  3. the lowest tide
  4. the highest tides
  5. 1,2 and 3
  6. 1 and 2

7. None of the above
4. The middle zone of the rocky intertidal zone, is inhabited by
  1. a diverse array of algae.
  2. sponges.
  3. sea anemones.
  4. bryophytes.
  5. suspension-feeding barnacles and mussels.
  6. herbivorous, predatory snails, and crabs.
  7. sea urchins, sea stars, and small fishes.
  8. all the above
  9. only 1,2 &3
  10. only 4,5 & 6
5. Coral Reefs are abundant in
  1. the warm tropical waters
  2. the pelagic zone
  3. the neritic zone
  4. the aphotic zone
  5. 1 and 2
  6. 1 and 3
  7. none of the above
6. Primary producers in fast flowing streams and rivers are
  1. large stationary phytoplankton communities
  2. attached algae
  3. rooted plants
  4. 1 and 2
  5. 2 and 3
  6. 1 and 3
7. Write only the season name below each figure?



8. Intertidal communities are subjected to huge daily variations in the availability of
  1. seawater (and the nutrients it carries)
  2. temperature.
  3. mechanical forces of wave action, which can dislodge them from the habitat.
  4. 1,2&3
  5. Only 1&2
  6. Only 2&3
  7. none of the above

END OF EXAM.



Kafrelsheikh University  
Institute of Nanoscience and Nanotechnology  
Faculty of fisheries and aquaculture science  
Course of Nanotechnology Applications  
The Final Exam 2018/2019

Time of exam: 2 hours.

Q 1: Write simple definition for all of these following parts ?

1-Food packaging. 2-Hemolysin. 3- Furunculosis. 4- Fucoidan. 5-Water Purification.

Q 2: Briefly write comparison between the below scientific words ?

1-Apoptosis and Necrosis. 2- Nano-absorbents and Nano-catalysts. 3- Bottom up and Top down. 4- Nano-therapy for Aeromonas Hydrophila and for Aeromonas Salmonicida. 5- Nanotechnology applications for Food Processing and for Food Packaging.

Q 3: Simply write explanation for the following two reactions ?

1-Fenton's reaction.  
2- Mechanism of photo-catalyst's reaction.

Q 4: The modern nanotechnology has expressed its ability to purify waste water, write description for these two points ?

1- Just the classification of these nanomaterials.  
2- Factors affecting the adsorption process.

Q 5: Write briefly on Application of nanomaterials for food preservation ?

Good Luck





Answer the following questions:

1- Write on the following:

(20 degrees , 5 of each )

- A. Colstridium potulinum as food borne pathogens
- B. Bacterial growth phases in Foods.
- C. Temperature as extrinsic factors affecting on microbial growth.
- D. General factors affecting the chilling process.

2- After the completion of rigor mortis, muscle stiffness gradually decreases accompanied by increase in pH, ending up in softening of muscle. This is followed by breakdown of proteins by enzymes. This process is called as autolysis.

(10 degrees , 5 of each )

- A. Enumerate the types of food autolysis
- B. Factors Affecting Autolysis of food.

3- In Table comper between:

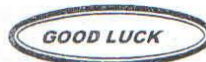
(10 degrees , 5 of each )

- A. Pseudomonas spp. and Shewanella putrefaciens spoilage of fish.
- B. Discoloration and Blackening in canned fishery products.

4- Fill in the spaces:-

(10 degrees)

- A. The Signs of spoilage in salted fish products 1..... 2..... 3.....  
4.....
- B. Factors affecting shelf life of fish 1..... 2..... 3.....  
4.....
- C. The term indicator microorganisms' has been used to mean 1.....  
2.....



El-Sheikh University  
Faculty of Aquatic and Fisheries Sciences  
Subject: Fishing Gear Technology  
Level : 3



Aquaculture Department  
Time allowed: 2 hours

Final exam during academic year 2018 – 2019

Exam board

Answer the following questions :

(50 marks)

1- A-Define the following terms

(20 marks)

- |                |                  |                      |
|----------------|------------------|----------------------|
| 1)- Discarding | 2)- Soaking time | 3)- Ghost fishing    |
| 4)- Mesh bar   | 5)- Bycatch      | 6)- Transducer angle |

B- Explain how tuna fish can be caught by pole and line fishing method.

2- A- Write short notes on gill net design and set procedure. (15 marks)

B- Arrange the following hook sizes from the smallest to the larger

15 , 20 , 9/0 , 5 , 5/0 , 10 , 2 , 19/0 and 22

3- Match between column "A" and its suitable sentence in column "B".

(15 marks)

Column A

Column B

- 1) Bunt
- 2) Basket traps
- 3) Sinkers
- 4) Sonar
- 5) Shore clams
- 6) Canopy
- 7) Light stick
- 8) Sweeps
- 9) 2 suns
- 10) Snood wire

- 1) bottom fishing gears
- 2) over hangs the trawl upper panel over lower one
- 3) a vertical fish detection and depth device
- 4) a Vigneron Dahl system component
- 5) bag of purse seine net where fish are collected
- 6) may be used with hooks for fish optical attraction
- 7) a horizontal fish detection device
- 8) may be picked by hands
- 9) have negative buoyancy forces
- 10) help herd the fish towards the hook
- 11) preserve the hook from being cut due to fish bite
- 12) Total hook wire length equals 66 mm

With my best wishes Dr. El Azab Badr

تغذية اليرقات المائية  
المرحلة الثالثة

Kafr El-Sheikh University  
Faculty of Aquatic and Fisheries Sciences  
Department of Aquaculture

Subject: Aquatic Larval Feeding  
Time: 2 hours  
Date: 9/1/2019  
Level: Three



Final exam during academic year 2018/2019

Please answer the following questions: (50 marks).

❖ First question Complete the following sentences (9 marks):

- 1- .....produce algal toxins.
- 2- ..... were used as food in aquaculture.
- 3- Photobioreactor is .....
- 4- Generalized conditions for culturing micro-algae are .....
- 5- Algal culture techniques are .....
- 6- Important criteria for larval food sources include .....

❖ Second question : Write what you know about (16 marks).

- 1- Flow diagram of purification steps of single cell algae?
- 2- Growth phases of micro-algae cultures?
- 3- Bioencapsulation of live feeds?
- 4- Waste products from the food industry?

❖ Third question: Complete the following sentences (13 marks).

- 1- ..... and ..... are two of the largest biotic factors leading to larva mortality.
- 2- Scoliosis is .....
- 3- ..... the most important energy reserve in fish embryos.
- 4- Main digestive pancreatic enzymes include ..... can be detected before mouth opening.
- 5- Decrease in amylase activity during larvae development may be .....
- 6- A mixture of .... was used in a diet given to 25-day-old sea bass larvae.
- 7- The main phospholipid source used in experiments is .....
- 8- Dietary DHA/EPA ratio of ..... is found in marine species.
- 9- The studies on vitamin A in fish larvae are largely focused on the effects on .....
- 10- Fish biologist's categories larvae of two types ..... and .....
- 11- Microencapsulated can be divided into ..... & .....
- 12- Rotifers body is divided into three main parts .....
- 13- The optimal Salinity conditions for hatching Artemia are between .....

5- Fourth question: (12 marks).

- A- Levels of digestive enzymes in fish influenced by many factors (Explain)?
- B- In larval fish diets, part of the protein fraction is usually supplied in the form of hydrolysate (Why)?
- C- What are different five components that need to be assessed for ingredients used in feeds for aquatic animals?
- D- Explained by only drawing with writing data Digestive tract anatomy in fish larvae?

With our best wishes

Prof. Dr. El-Sayed B. Belal

Prof. Dr. Malik M. Khalafalla

أبواب الإدارة  
المستوى الثالث

جامعة كفر الشيخ

الزمن : ساعتان

كلية علوم الشريعة السامية والمصدايق

Academic Year 2018 / 2019 (Management 1)

FINAL EXAM

Please answer only three questions including question NO. 1: from the followings:

**Question NO. 1:**

Please defines and explains the exact meaning of only five terminologies in a concise form from the followings: (30 Marks )

- |                      |                         |
|----------------------|-------------------------|
| (1) General Managers | (2) Functional Managers |
| (3) Controlling      | (4) Communication Skill |
| (5) Marketing        | (6) production          |
| (7) Finance          | (8) Project Manager.    |

**Question NO. 2:**

What is the deferent between: (15 marks)

- (1) Effectively and Efficiently.
- (2) Vision , Mission , Goals and Objectives
- (3) Interpersonal Roles , Informational Roles and Decisional Roles.

**Question NO. 3:**

Please explain the three types of Environment (Organizational Culture , Business Ethics, Social Responsibility). (15 marks)

**Question NO. 4:**

Please explain the Creative Problem Solving and Decision Making Model. (15 marks)

Good Luck



الكيمياء البيئية المستوى 3



Al-Azhar University  
Faculty of Aquatic and Fisheries Science

B.Sc. (Final Semester -I) Examination, 2018/2019

### Environmental Chemistry

Day: Wednesday, 16/01/2019 (1-3 hrs.) Time: 120 minutes Max. Markers: 50

Dr. Mohamed A. S. Abdelrazek, Dr. Tamer M. A. Ismail and Dr. Moustafa S. SaadAllah.

Just. Answer the following questions in short:

1. Only, by chemical equations, Explain " Stratospheric ozone protects life on the surface of the Earth by screening the harmful UV light coming from the sun through a photodissociation mechanism"
2. What is the biologically mediated processes and its Effects "in points" with chemical equations?
3. "Waters that have a good oxygen level maintain good water quality" In the light of this phrase explain the importance of dissolved oxygen and the importance of dissolution of carbon dioxide in water?
4. Several individual or combined processes contribute to the presence of different species that affect the composition and properties of natural waters. Mention including examples?
5. Just, Define the following scientific expression:  
(Bioaccumulation – Transformations – Metabolic Processes – Xenobiotic - Toxicant –Toxin – Poison - Acute toxicity - Subchronic toxicity - Chronic toxicity)
6. Define biodegradation of chemical pollutants? And explain in points, How does it happen?

Best Wishes

M.A.S. Abdelrazek

Tamer

KAFRELSHEIKH UNIVERSITY  
FACULTY OF AQUATIC AND  
FISHERIES SCIENCES  
Course Name: Fish Culture Systems  
Level: The Third Year of B.Sc.  
(Aquaculture Program)



جامعة كفر الشيخ  
كلية علوم الثروة السمكية  
والمصايد

Date: 23<sup>rd</sup> January 2019  
Allowed Time: 2 hours

Final Exam of the Academic Year: 2018-2019

Answer the following questions: (50 Degrees)

1- The First Question: (10 Degrees)

A. Choose the correct answer:

1. Un-ionized ammonia level should be less than (5 ppm OR 0.5 ppm OR 0.05 ppm).
2. The best Wavelength of UV for sterilization in RAS system is (450nm OR 350 nm OR 254nm)
3. To determine the safe limit of ammonia under short-term or long term exposure time, multiply the LC<sub>50</sub> by (10% OR 20% OR 30%).
4. For maximum efficiency of Foam Fractionation (in RAS system), the Ideal bubble diameter is (1.8mm OR 0.8 mm OR 1.2 mm)
5. The quantity of ammonia excreted from 1 kg fish feed is (less than 0.025 kg OR 0.025-0.055 kg OR greater than 0.5 kg).
6. The ideal content of dissolved oxygen in fish ponds is (80-100% saturation OR greater than 120% saturation OR less than 20% saturation).
7. For the maximum growth rate, ozone concentration should be (0.013 OR 0.025 OR 0.045 kg O<sub>3</sub> per kg feed).
8. The ideal level of pH in rearing water of fish farms is (5-6 OR 7-8 OR 9-10).
9. The ideal level of organic matter in pond soil of fish farms is (0.1-0.5 OR 3.5-4.5 OR 1.5-2.5%).
10. The optimal operating temperature of the UV lamp must be (near 40°C OR 60°C OR 70°C).

B. Put (✓) in front of the right sentence and (✗) in front of the wrong sentence.

1. The available concentration of phosphorus in pond soil should be 250-750 ppm. ( )
2. Each kilogram of fish feed produces 0.25-0.50 kg solid wastes. ( )
3. The efficiency of fine-bubble aeration is 1 to 2 times greater than that of the coarse-bubble. ( )
4. Ozone sterilization system is more safety than ultraviolet (UV) sterilization system. ( )
5. The low value of Feed Conversion Ratio (FCR) is a good indicator of high-quality feed. ( )
6. Ozone is 3 times more soluble than oxygen. ( )
7. The solubility of oxygen increases as water temperature increase. ( )
8. The available concentration of nitrogen in pond soil should be 30-60 ppm. ( )
9. Toxicity of ammonia increases as temperature and pH decreases. ( )
10. The nitrogen content in fish tanks of the RAS system must be less than 103% saturation. ( )

2. The Second Question: (15 Degrees)

Write on the following points:

- A. The differences between Extensive, semi-intensive and intensive culture systems. (4.0 Degrees)
- B. The differences between Traditional and Sustainable Aquaculture. (3.0 Degrees)

- C. Classification of aquaculture systems according to (1) water exploitation, (2) stocking density, and (3) water salinity. (4.5 Degrees)
- D. Installing artificial aerators in fish ponds will improve soil quality, How? (3.5 Degrees)

**3. The Third Question: (14 Degrees)**

Write on the following points:

- A. Required Units within RAS Systems & their Processes. *(Write OR draw)* (5.0 Degrees)
- B. Factors affecting the efficiency of biological filtration. (4.0 Degrees)
- C. Advantages of UV sterilization. (2.5 Degrees)
- D. Dis-Advantages of Ozone. (2.5 Degrees)

**4. The Fourth Question: (11 Degrees)**

Field problems and your suggested solutions

- A. How to calculate the daily requirements of oxygen in fish ponds using two different methods, in case the pond will produce 10 tons of tilapia fish per season? (5.0 Degrees)
- B. If you are a manager of fish farm, write in details how to reduce (control) the concentration of ammonia in your fish ponds with a professional, economy and quick way? (6.0 Degrees)

*With best wishes,*  
*Dr. Mohamed Abdel-Rahim*



ا.م.د/ رشدي العدوي  
إجمالي الدرجات ( ٥٠ درجة )  
( ١٧ درجة )

ا.د/ محمود فواز

لجنة الممتحنين: ا.د/ مراد زكي

أجب عن جميع الأسئلة التالية:

السؤال الأول:

- أ- عرف المنتجات في مجال التسويق الإلكتروني، مع بيان أنواعها؟  
ب- " يواجه مديري المزارع السمكية العديد من الأحداث غير المنظورة " وضح الأساليب التي تستخدم لمواجهة تلك الأحداث، ثم بين أنواعهم وفقاً لتقبلهم لتلك الأحداث ؟  
ج- عرف التسويق، مع بيان العناصر الأساسية لدراسته ؟

السؤال الثاني:

- أ- ج " يواجه الانتاج السمكي العديد من التقلبات والتي تؤثر تأثيراً قوياً في إدارة المزارع السمكية " ...إشرح هذه العبارة مع التوضيح بالرسم كامل البيانات كلما أمكن ؟  
ب- " لا شك ان للدراسات التسويقية السمكية العديد من الأهداف " أشرح هذه العبارة ، مبيناً المداخل الرئيسية للتسويق السمكي ؟  
ج- تكلم عن 4P في مجال التسويق الإلكتروني؟

السؤال الثالث:

- أ- تكلم عن حالات مرونة الطلب السعرية: مع الرسم كامل البيانات ؟  
ب- من خلال دراستك لسوق الأسماك بميناء البرلس وبورصة الأسماك وضح كيفية تطوهم مستغلاً نقاط القوة والفرص المتاحة للتغلب على نقاط الضعف والتحديات ؟  
ج- إذا كانت دالة الإيراد الكلي، ودالة التكاليف الكلية لمزرعة تعمل في سوق المنافسة الكاملة هي على التوالي :

$$TR = 8Q$$
$$TC = \frac{4}{6} Q^3 - 20Q^2 + 80Q + 6$$

المطلوب: ١- مستوى الانتاج الذي يحقق أقصى ربح ؟

٢- أقصى ربح ؟

٣- السعر الذي تباع به الوحدة الواحدة من الانتاج الذي يحقق أقصى ربح ؟

مع أطيب التمنيات بالنجاح والتفوق

لجنة الممتحنين

مراد زكي



# التغيرات المناخية والتربية السمكية

Suez Canal University  
Faculty of Fishers and  
Aquaculture sciences  
Aquaculture Division

  
Final exam  
2018/2019

3<sup>rd</sup> level  
Time: 2 h  
50 marks

Subject: Climate changes & Fish Adaptation

Exam committee: prof. Dr. M. Abo Waly, Dr. A. El-Henawy and Dr. F. Moghanm

Answer the following questions:

Part (A) 30 marks

**First Question: (15 marks) Put (T) if sentence is correct or (F) if it false:**

1. Climate change refers to the difference in the state of the global climate on the planet that causes a dramatic change in weather.
2. Destruction of rainforests and collapse is a positive impact of climate change in the environment.
3. Fisheries and aquaculture are one of the most widely traded and exported food products for many developing countries. They account for at least 51 percent of animal protein for more than 4 billion people, most in developing countries
4. Climate change will affect fisheries and aquaculture via acidification, changes in sea temperatures and circulation patterns, the frequency and severity of extreme events, and sea-level rise and associated ecological changes.
5. Climate change impact on production ecology in infrastructure and costs.
6. Planning adaptation in fisheries may be changing the timing or locations of fishing as species arrive earlier/later or shift to new areas.
7. Common in climate change is competition between sectors for water resources, for example, between agriculture, domestic use and other sectors such as aquaculture.
8. Maladaptation is a result from adaptation activities that are not planned or implemented properly.
9. The concentration of carbon dioxide increased twice the amount of concentration before the industrial revolution.
10. The ozone layer is about 13mm in thickness and located 25 to 35 km from the earth's surface and is considered a protective shield for living organisms on Earth.
11. Blue carbon refers to carbon that is sequestered in coastal vegetation systems such as mangrove forests, sea grass beds and rainforests.
12. Coping is focused on long-term benefits, often many seasons and usually with low costs and requiring less effort than other adaptation.
13. Destructive fishing practices, such as heavy bottom trawling gear, explosives and poisons, damage marine environments, while introduced species increase competition for native species.
14. Improving fuel efficiency by switching to more efficient gear types or vessels, switching to sails or changing fishing practices would increase emissions from fishing activities.
15. Imbalances in the ozone zone or in the so-called ozone hole occur very much over large cities and are lower in areas with less population and less use of chlorofluorocarbons.

Attention: This is a multiple choice question.

**Second question ( 6 marks):** Compare between the following:

1. Weather & climate
2. adaptation & mitigation

**Third question: (9 marks)**

1. Explain the impacts of climate change on the environment?
2. Explain the project of Egypt in fisheries as examples of adaptation activity
3. Write in point about the related phenomena to global warming and expected global warming?

**Part (B) 20 marks**

**Fourth question: (8 mark) Put (T) if sentence is correct or (F) if it false:**

1. Remote sensing involves the collection of data by systems, which are not indirect contact with the objects.
2. Weather and communication satellites are using geostationary orbits.
3. Meteorological sensors had large field of view (in hundreds of kilometers).
4. Water reservoirs divided to fresh water 5% and saltwater 95% .
5. Unfrozen fresh water divided to surface water 2.5% and groundwater 97.5%
6. Rayleigh scattering means scatters shorter wavelengths and due to Blue Sky.
7. In nonselective scattering particles  $>$  wavelength and due to white fogs.
8. Remote sensing works on possibility of updating maps with accurate images.

**Fifth question: (12 marks)**

1. Explain with drawing the remote sensing process.
2. Compare between passive and active remote sensing.
3. What are the main two types of weather satellites?

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*With best wishes*

أمرأة الأسماك  
المستوى الرابع

Kafreishikh University  
Faculty of Aquatic and Fisheries Sciences  
Course: Fish Diseases  
Academic level: Fourth



Time: 2 Hours  
Total Marks: 50  
Autumn Semester  
2018-2019

**Answer the Following**

1. Write short notes on clinical signs and P/M lesions of the following: (13 marks)

- A) Saprolegniasis.
- B) Edwardsiella septicemia in Nile tilapia.
- C) Enteric red mouth disease.
- D) Streptococcal Septicemia.

2- Enumerate the following: (12 marks)

- A) The role of the second line of fish defense in protection against diseases.
- B) Three bacterial fish diseases transmitted vertically and the control measures of one of them.

3- Identify the etiological agent of the given lesion and describe it under microscope:

(13 marks)

- A) Alteration of caudal peduncle pigmentation.
- B) Profuse quantities of clear or bloody stained fluid in the abdomen of carp with high mortality.
- C) Irregular white patches on the skin of tilapia on winter season.
- D) Presence of visible yellowish pea like structure of different size in bronchial cavity.
- E) Appearance of ulcer and focal haemorrhage on the carp body.

4- Differentiate between the following:

(12 Marks)

- A) V.H.S. and L.V.D.
- B) Gyrodactylus and Dactylogyrus.
- C) Ich. and Ichth.

**GOOD LUCK**





Answer the following questions:

1. First question (5 degrees)
  - a) Mention two definitions for the "Biotechnology" including the definition according to Food and Agricultural Organization (FAO)
  - b) Illustrate different applications of marine biotechnology and discuss two of them
2. Second question (30 degrees)
  - a) Mention major applications of transgenic marine organisms and explain one of them
  - b) What is the relationship between sponge and associated microbes
  - c) Explain different methods of isolation of metagenomic DNA from sponge sample
3. Third question (15 degrees)
  - a) Photobioreactors for marine microalgae can be divided into different types based on their localization , Discuss
  - b) Mention types of phage infections.
  - c) Explain different methods for diagnosis of shrimp viral disease





**Answer the Following Questions:**

**1- Define: (18 marks)**

- A) Quarantine                      B) Biosecurity                      C) Quarantine Clearance  
D) Health                              D) Epidemiology                      F) Components

**2- Discuss: (12 marks)**

- A) Principles of Aquatic Animals Quarantine.  
B) Risk Analysis.

**3- Compare between Standards for Construction in High and Low Risk Quarantine.**

**(10 Marks)**

**4- Write short notes on:**

**(10 Marks)**

- A) Period of Quarantine.  
B) International Aquatic Animal Health Certificate.  
C) Logbooks.

**GOOD LUCK**

المستوى الرابع  
الحجر العنصر

Kafreisheikh University  
Faculty of Aquatic and Fisheries Sciences  
Course: Quarantine and Health Care  
Academic Level: Fourth



Time: 2 Hours  
Total Marks: 50  
Autumn Semester  
2018-2019

**Answer the Following Questions:**

**1- Define:**

- A) Quarantine  
D) Health

- B) Biosecurity  
D) Epidemiology

- C) Quarantine Clearance  
F) Components

(18 marks)

**2- Discuss:**

- A) Principles of Aquatic Animals Quarantine.  
B) Risk Analysis.

(12 marks)

**3- Compare between Standards for Construction in High and Low Risk Quarantine.**

(10 Marks)

**4- Write short notes on:**

- A) Period of Quarantine.  
B) International Aquatic Animal Health Certificate.  
C) Logbooks.

(10 Marks)

**GOOD LUCK**



**Q. I. (30 mark)**

**Q. I. A. Complete the following sentences:**

(10 marks, 2 for each point)

- 1- ..... is used for collection of fry and fingerling from natural sources.
- 2- ..... is the ideal temperature for breeding of grass carp.
- 3- ..... is the feeding rate of cat fish broodstock.
- 4- ..... is the total quantity of eggs released by common carp female.
- 5- ..... is the monosexing dose of 17  $\alpha$  methyltestosterone in tilapia.

**Q. I. B. Compare between each of the following:**

(10 marks, 5 for each point)

- 1- Dry and wet bundh in breeding of major carp (breeding method).
- 2- Caudal fin in sexually active and in active male tilapia.

**Q. I. C. write short notes on each of the following:**

(10 marks, 5 for each point)

- 1- Advantages and disadvantages of double-walled hatching hapa.
- 2- Fish vitellogenesis (diagram only)

**Q. II. (20 mark)**

**Q. II.A. Answer the following with (v) or (x):**

(10 marks, 2 for each point)

1. Constant and high speed water current improves spawn collection ( ).
2. Ethanol and acetone are used for preservation of fish pituitary gland at room temperature ( ).
3. Natural breeding season of cat fish is from July-April ( ).
4. Moina is very important for growth of 6 weeks Pangasius fry ( ).
- 5- Domperidone improves the efficacy of ovaprim ( ).

**Q. II. B. Please, read the following sentences and answer the questions: (10 marks)**

You are admitted to visit a tilapia hatchery; the owner obtained zero hatching rte.

- 1- What are the causes of this problem? (4 marks)
- 2- What are the methods of remedy? (6 marks)

ALL THE BEST

*R.A. Mohamed*  
Radi A. Mohamed



**Q. I. (30 mark)**

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2- What are the methods of remedy? (6 marks)





**Answer the following questions:**

**Question 1 :**

**A - Complete the following :**

1. Fire is an external indication of combustion which can be defined as the ..... of an  
..... with .....
2. In order to burn solids and liquids have to be ..... to..... At .....
3. The elements of fire triangle are ..... & ..... and.....  
while the fire extinguisher triangle are ..... & ..... and .....
4. Main sources of marine pollution .....  
And .....
5. Ship operations such as ..... And..... may cause marine pollution
6. The personal life saving appliances are ..... and .....
7. The number of distress signals inside survival craft are ..... And .....  
..... while in the bridge ..... and .....

**B - Define the following:**

- |                          |                      |
|--------------------------|----------------------|
| 1 - Ignition temperature | 2 - flash point      |
| 3 - Auto ignition        | 4 - tacit acceptance |

**Question 2 :**

**A - Explain briefly :**

- 1-Control of discharge of oil for oil tankers and other ships and state:  
special areas - the oil record book - emergency plan
- 2-Classification of NLS (less harm of categorization of NLS)
- 3 - General requirement for all type of life rafts and life boats
- 4 - National Fire Protection Association ( NFPA 10 )

**B - Put the mark correct or false and correct the wrong**

- 1 - Category A is the states with largest interest in international sea born trade ( )
- 2 - Life jacket lift the mouth of an exhausted person not less than 120 mm clear of the  
water ( )

- 5 - SOS by battery is .... ( )
- 6 - The hand flares , when fired vertically reach an altitude of not less than 200 meter ( )
- 7 - The hand flare have A burning period of not less than 1 min with orange color ( )
- 8 - A person is considered to be hypothermic if their temperature drops to 35 degrees Celsius or below ( )
- 9 - Number of life jackets 100 % of all passengers and crew plus 5 % and plus 10 % for children ( )
- 10 - Number of life buoys on cargo ship has LOA 150 meter must be on board min. quantity 10 life buoy ( )

**Question 3 :**

**A - State your information for all the following:**

**Choose and answer 1 or 2**

1. Types of fire detectors and the system components
2. Types of heat sensors and smoke detectors
1. Compare between cargo ship and container ship
2. Compare between full displacement & light displacement & dead weight and find the relation between them
1. Different between L.O.A & L.B.
2. Different between maximum breadth & moulded breadth

**B - Give short notes :**

1. SOLAS 1960
2. Cases of emergencies on board the ship
3. State the different methods of commercial fishery
4. Muster list
5. The safety equipment to protect yourself on board ship according to the rules of safe working practice and explain 2 from them
6. State only the 6 annex of MARPOL convention

( Prof.Dr. Gamal Eid)



تفريخ الحيوانات المائية  
المستوى الرابع

Kafrelsheikh University  
Faculty of Aquatic and Fisheries Sciences  
Course: Aquaculture hatching & propagation  
Academic level: 4<sup>th</sup> year, 1<sup>st</sup> semester  
Program: Aquaculture



Date: January 10, 2019  
Time: 2 hours  
Total marks: 50 mark  
Academic number:  
Student name:

**Q. I. (30 mark)**

**Q. I. A. Complete the following sentences:**

(10 marks, 2 for each point)

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- 2- ..... is the ideal temperature for breeding of grass carp.
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**Q. I. B. Compare between each of the following:**

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- 1- Dry and wet bundh in breeding of major carp (breeding method).
- 2- Caudal fin in sexually active and in active male tilapia.

**Q. I. C. write short notes on each of the following:** (10 marks, 5 for each point)

- 1- Advantages and disadvantages of double-walled hatching hapa.
- 2- Fish vitellogenesis (diagram only)

**Q. II. (20 mark)**

**Q. II.A. Answer the following with (v) or (x):**

(10 marks, 2 for each point)

1. Constant and high speed water current improves spawn collection ( ).
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- 5- Domperidone improves the efficacy of ovaprim ( ).

**Q. II. B. Please, read the following sentences and answer the questions: (10 marks)**

You are admitted to visit a tilapia hatchery; the owner obtained zero hatching rte.

(4 marks)

1- What are the causes of this problem?

(6 marks)

2- What are the methods of remedy?

ALL THE BEST

R. A. Mohamed  
Radi A. Mohamed

تكونوا لوصيا محضين الى  
المستوى الرابع

Course: Food Inspection Techniques

Level: 4 Sp. Aquaculture

Allowed time: 2 hour

Date: 14 / 1 / 2019

Final Exam



جامعة كفر الشيخ  
كلية علوم الثروة السمكية و المصايد

Answer the following questions

First Question: (10 marks)

In a walk-through inspection, mention in points the general checkpoints which you should notice through:

- 1) Raw materials assessment
- 2) Manufacturing equipment assessment

Second Question: (15 marks)

- A. Illustrate in brief the general components and considerations of the prerequisite plan.
- B- What are the main types of food inspection? Specify their definitions and the differences between them.

Third Question: (15 marks)

- A- Discuss briefly the most common inspection Techniques and Equipment.
- B- What are the essential required areas of knowledge and skill for the food inspector?

Forth Question: (10 marks)

Illustrate with a schematic diagram a summary of the procedures and considerations involved in conducting inspections of primary production facilities

Good luck and best wishes

Prof. Ahmed A. Tayel



السلافة الحبيب للدر  
المستوى الرابع

Course: Food Safety Enhancement Program/  
Hazard Analysis Critical Control Point  
Level: 4 Sp. Fish Processing and Biotechnology  
Allowed time: 2 hour Date: 17 / 1 / 2019

جامعة كفر الشيخ  
كلية علوم الثروة السمكية و المصايد

Final Exam

Answer the following questions

First Question: (15 marks)

- A- What are the main characteristics of Food borne infections? Discuss in detail the transmission, symptoms and control measures of TWO infective food borne bacterial pathogens.
- B-. What are the different classes of Food borne intoxications? Discuss in details TWO examples from them.

Second Question: (10 marks)

Mention briefly (in points) the different types and examples for the hazards that could be found in food.

Third Question: (15 marks)

- A- Exemplify (in a table) the types, causative agent and symptoms of marine biotoxins, which could be found in the seafood.
- B- Discuss, in points, the HACCP principals AND the suggested prerequisite programs that could be required for the HACCP plan?

Forth Question: (10 marks)

- A. Point out the general requirements which was suggested for use of naturally occurring antimicrobial substances
- B. Illustrate with a schematic diagram the possible handling procedure and application protocols of plant materials to be used for food preservation.

Good luck and best wishes

Prof. Ahmed A. Tayel

جامعة الشيخ زايد  
المستوى الرابع

Sheikh Zayed University  
Faculty of Aquatic Sciences and Fisheries  
Course: Invertebrate Culture (0110110)  
Academic level: 4<sup>th</sup> year, 1<sup>st</sup> semester



Date: Jan 17, 2019  
Time: 2 hours  
Total marks: 50 mark  
Academic number:  
Student name:

**Q. I. (20 mark)**

**Q-I-A- Answer the following with (✓) or (x): (10 marks, 2 for each point)**

- 1- Shrimp nauplius is a non-feeding stage ( ).
- 2- Female crab must make moulting before copulation ( ).
- 3- Lobster social behaviour follows age hierarchy ( ).
- 4- Adult prawns should be treated with formalin dip after transportation ( ).
- 5- No differences in rearing condition of different stages of shrimp in Japanese system ( ).

**Q-I-B- Compare between each of the following: (10 marks, 5 for each point)**

- 1- Immature and maturing shrimp testes.
- 2- Open and closed thelycum (lateral plates)

**Q. II. (30 mark)**

**Q-II-A- Complete the following sentences: (10 marks, 2 for each point)**

- 1- The shape of the abdominal flap in female crab is.....
- 2- The ready to hatch crab egg is.....colour.
- 3- The optimum stocking density during adult shrimp transportation is .....
- 4- The calcification of oyster is stopped when the water temperature goes below.....
- 5- The tank height is 100 cm, so the optimum water level for adult crabs is.....

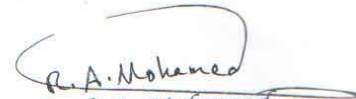
**Q-II-B- Write short notes on the following (10 marks, 5 for each point)**

- 1- Major function of MSH.
- 2- Maturation of crustacean's ovaries and its feedback mechanism (Diagram only).

**Q-II-C- Please, read the following and answers the question: (10 marks)**

Burying habit is common in crabs and considered a normal behaviour. Its consequences help the growth of crabs and reduce the incidence of cannibalism. **Explain in details, how can you keep crabs burying habit and reduce cannibalism?**

All the best

  
Radi A. Mohamed



امتحان اسماك الزينة  
المستوى الرابع



جامعة كفر الشيخ  
Kafrelsheikh U

Faculty of Aquatic and Fisheries Sciences  
Subject: Ornamental fish production (2018-2019)  
Final-term Exam

Time allowed: 2 hours

Answer the following questions:

1- A. Live foods do still have a number a specific uses in fish keeping. Discuss. (14 degrees)

B. Complete the following sentences:

- 1- Marine Ornamental fish in Egypt can you see in: ..... and .....
- 2- The fry of Discus fish swimming near of the parents for .....
- 3- Sodium thio sulphate is used to.....
- 4- Oskar fish are ..... And Tetra fish are .....
- 5- .....that is kept as pets in confined spaces of an aquarium or a garden pool with the purpose of enjoying their beauty for fun and fancy.

2- A. Write short notes on artificial foods of ornamental fishes? (10 degrees)

B. How to design a suitable aquarium for ornamental fish?

3- A. Discuss the factors causing natural Hatchery and Spawning? (14 degrees)

B. Find the odd word out and correct the following sentences:

- 1) Size of an aquarium is designed in such a way that depth will be twice as long as its length and height.
- 2) Goldfish-First ornamental fish to be kept, its bred in tropical waters.
- 3) Fighting fish is one of Egg buriers.
- 4) We must be placing each one male Koi Fish individual in the aquarium.
- 5) Angel fish need to high PH degree.
- 6) Molly and guppy are of Ovoviviparous.

4- A. Choose the correct answer: (12 degrees)

If you have an aquarium of 60 x 30 cm offering 1800 cm<sup>2</sup> of surface area can hold (30 fishes of 2.5 cm, or 18 fish of 5 cm, or 10 fish of 7.5 cm size)

If you have an aquarium of 80 x 30 x 40 cm can use heater power. (100 watt, or 180 watt, or 50 watt)

B. Define the following terms:

Mop - Egg Scatters - - Keeping - Plecostomus

Good Luck