

Please answer the following questions: (50 marks).

❖ First question: Put a (true) or (false) in front of the following statements (2 marks each):

1. Ornamental fishes are also called "live jewels" for their beautiful colors and playful behavior.	( )
2. Mechanical filtration involves enhancing natural populations of the bacteria which operate the nitrate cycle by providing the conditions they require.	( )
3. Oxygen requirement of an aquarium is closely related with water temperature.	( )
4. In viviparous, eggs form and hatch within the female before birth.	( )
5. The guppy fish are also known as "millions fish" as they are prolific breeders.	( )
6. Star fish commonly referred to as the sea stars are a group of marine invertebrates called echinoderms.	( )
7. Total alkalinity 180-220 ppm is ideal for aquarium fish.	( )
8. The PH concentration in the aquarium fish tank should be 5-7ppm.	( )
9. For establishment of an aquarium the dissolved oxygen concentration should be 5-6ppm	( )
10. The blennies fish are small herbivores fish	( )

❖ Second question: answer the following questions (5 marks each).

1. State the advantages of keeping ornamental fishes
2. State different ways of ornamental fishes classification with mentioning three types from each fresh and marine water ornamental fishes
3. State factors affecting hatchery spawning

❖ Third question: write short notes on each of the following items (5 marks each).

1. Classification based on hatchery spawning
2. Hormonal control of reproduction
3. Ichthyophthiriasis (Definition and ways of treatment)

With my best wishes  
Dr. Asmaa El Nokrashy

تفريع

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: 24-1-2022  
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)**

- 1- .....is the development of spermatocytes into spermatids.
- 2- .....is the dilution rate of the media during preparation of fish pituitary extract for injection.
- 3- .....is the suitable sex ratio during breeding of common carp.
- 4-.....is the feeding rate of tilapia broodstock.
- 5- .....is used for carp production and its inner walls are coated with mud.

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

- 1- Fertilized and unfertilized eggs of common carp.
- 2- Catfish and common carp breeding (mixing of gamete after collection).

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

- 1-Grading of tilapia fry before sex reversal
- 2-Natural breeding of finfish (diagram only)

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

**Q. II.A. Answer the following with (v) or (x): (10 marks, 2 for each point)**

1. Chittagong hatchery pits outer wall is formed of a mosquito netting material ( ).
2. Estradiol has an important role in the process of vitellogenesis ( ).
- 3- Dopamine improves the efficacy of ovaprim ( ).
4. In wet bundh, major carp breeders prefer deep water for breeding ( ).
5. Heteroclaris are hybrids of *Heterobranchus longifilis* males and *Clarias gariepinus* females ( ).

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

You are admitted to visit a freshwater fish farm; the owner is suffering from low fish production. He used to collect spawn and fries from natural sources.

- 1- What are the disadvantages of using these fries? (4 marks)
- 2- How can you differentiate between major carp and minor carp fry? (6 marks)

ALL THE BEST

Radi A. Mohamed

Course: Food Safety Enhancement Program/  
Hazard Analysis Critical Control Point  
Level: 4 Sp. Fish Processing and Biotechnology  
Allowed time: 2 hour      Date: 24 / 1 / 2022  
Final Exam



Answer the following questions

First Question: (10 marks)

Different types of hazards could be found in food. What are these types?  
Mention some examples for each of them.

Second Question: (15 marks)

- A- Illustrate with a schematic diagram the possible handling procedure and application protocols of plant materials to be used for food preservation
- B- For the usage of a natural substance as food antimicrobial agent, there are some considerations and requirements to be checked. What are they?

Third Question: (15 marks)

- A. Food borne diseases are classified into: Food borne infections and Food borne intoxications; compare briefly between them including symptoms, incubation and causes.
- B. Discuss in detail the transmission, symptoms and control measures of TWO infective food borne bacterial pathogens.

Forth Question: (10 marks)

Illustrate, in points, the HACCP principals AND the suggested prerequisite programs that could be required for the HACCP plan

Good luck and best wishes

*Prof. Ahmed A. Tayel*

**Course: Food Inspection Techniques**

**Level: 4** Sp. Fish processing and Biotechnology

**Allowed time: 2 hour** **Date: 20 / 1 / 2022**

**Final Exam**



جامعة كفر الشيخ  
كلية علوم الثروة السمكية و المصايد

**Answer the following questions**

**First Question:** (15 marks)

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

- 1) Facility assessment
- 2) Raw materials assessment

**Second Question:** (10 marks)

Discuss briefly the most applied inspection Techniques and Equipment

**Third Question:** (10 marks)

With a schematic diagram, demonstrate a summary of the procedures and considerations involved in conducting inspections of primary food production facilities

**Forth Question:** (15 marks)

- A- What are the essential required areas of knowledge and skill for the food inspector? and how can he respond to non-compliance and violation?
- B- What are the different types of food inspection? Illustrate their definitions to clarify the differences between them.

Good luck and best wishes

*Prof. Ahmed A. Tayel*



**Course: Food Inspection Techniques**

**Level: 4** Sp. Aquaculture

**Allowed time: 2 hour** **Date: 20 / 1 / 2022**

**Final Exam**

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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 be noticed through:

- 1) Raw materials assessment
- 2) Product assessment

**Second Question:** (15 marks)

A- Illustrate in brief the general components and considerations of the prerequisite plan.

B- What are the essential required areas of knowledge and skill for the food inspector?

**Third Question:** (15 marks)

A- What are the different types of food inspection? Illustrate their definitions to clarify the differences between them.

B- Discuss briefly the most applied inspection Techniques and Equipment

**Forth Question:** (10 marks)

With a schematic diagram, demonstrate a summary of the procedures and considerations involved in conducting inspections of food production facilities

Good luck and best wishes

*Prof. Ahmed A. Tayel*

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



Date: 17-1-2022  
Time: 2 hours  
Total marks: 50 mark  
Academic number:  
Student name:

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

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

- 1- Shrimp spermatozoa depend on flagellum movement ( ).
- 2- Artemia is necessary for nauplius life ( ).
- 3- Erythromycin dip is necessary after shrimp transportation ( ).
- 4- Sick mud crabs broodstock are transported in bamboo baskets with wet sea grass ( ).
- 5- Clear water rearing system improved survival rate of shrimp ( ).

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

- 1- GSI of immature and matured shrimp ovary
- 2- Planktonic larvae and Juvenile lobster (Swimming behavior and habitat).

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

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

- 1-The oyster suffers sudden death at .....
- 2- The first pair of swimmerets is.....in female lobster
- 3- Waving crab's males' colour is.....
- 4- The optimum sex ratio during shrimp reproduction is .....
- 5- Freshwater female mussels is ..... in colour

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

- 1- The method used to facilitate the burying habit of mud crabs.
- 2- The roles of eye stalk ablation in reproduction of crustaceans (Diagram only).

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

You are admitted to visit bivalve fishermen. The complaint is low spat collection even they used it in proper season.

- 1- What is the cause of this problem? (4 marks)
- 2- Mention the materials used for spat collection? (6 marks)

*All the best*

*Radi A. Mohamed*



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

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

**(10 marks, 2 for each point)**

- 1- .....is the period for records keeping in high risk quarantine.
- 2-.....is an epidemic disease simultaneously invades some countries of the world.
- 3- .....is the dose of Iodophor solution used for aquatic animal tank disinfection.
- 4- ..... is the period of quarantine for marine fish in low risk quarantine.
- 5- ..... all actions that must be considered for prevention of the local and international spread of diseases.

**I. B. Compare between each of the following (with diagram if applicable):** **(20 marks, 10 for each point)**

- 1- Presence of pathogen in consignment in low and high risk quarantine.
- 2- Entrance to low and high risk quarantine.

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

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

**(10 marks, 2 for each point)**

1. Waterproof walls and roof are general requirement in quarantine facilities.
2. The location of quarantine area in a district could be identified based on the other district.
3. In high risk quarantine, internal audits was done quarterly by the operator.
4. Breakdown of aerators is a part of auditing in low risk quarantine.
- 5- Periodical surveillance and monitoring for pathogen improve quarantine processes

**II. B. Write short notes on each of the followings:** **(10 marks)**

- 1- Repackage of containers in transit.
- 2- International Aquatic Animal Health Certificate.

*ALL THE BEST*

*Radi A. Mohamed*