

Please answer the following questions: (50 marks).

First question: Choose the correct answer and place it in table (30 marks):

- 1- The main component of the dry matter of oilseeds is?  
A) Carbohydrates B) Lipids C) Vitamins D) Minerals
- 2- Most fish are .....  
A) Herbivorous B) Carnivorous C) Omnivorous D) All of them
- 3- Protein of animal origin is of ..... quality than those of plant origin.  
A) Lower B) Medium C) higher D) All of them
- 4- Catabolism of protein leads to the release of .....  
A) Amino acid B) Glucose C) Ammonia D) Fatty acid
- 5- Nutritional requirements of protein for fish ..... with increasing age of the fish.  
A) Decreased B) Increased C) Constant D) regular
- 6- Considered ... of the most important components of the brain and nerve tissue.  
A) Phospholipids B) Vitamins C) Minerals D) Carbohydrates
- 7- The most common vitamin deficiency in fish nutrition is that of vitamin .....  
A) B12 B) B2 C) B3 D) B1
- 8- Seawater and freshwater contain ..... phosphorus.  
A) Little B) Very little C) High D) Very High
- 9- Energy requirement for fish ..... as age increases.  
A) Increase B) Decreases C) Regular D) All of them
- 10- Rice hulls are extremely high ..... material.  
A) Protein B) Fiber C) Lipid D) Vitamin
- 11- White fish meal is made from whole ..... fish and fish residues.  
A) Oily B) Non-oily C) A and B D) No answer
- 12- Fish meals are often adulterated with .....  
A) Protein B) Amino acids C) Lipids D) No answer
- 13- Fish Soluble used in small quantities in aquaculture feeds as an .....  
A) Antioxidant B) Binder C) Attractant D) All of them
- 14- ..... is an essential part of your feeding programme.  
A) Quantity B) Quality C) A and B D) No answer
- 15- ..... diets have been used successfully for milkfish and shrimp.  
A) Flat cakes B) Paste C) Balls D) No answer
- 16- Cooking method has advantage of reducing the ..... content of the feed.  
A) Bacterial B) Viruses C) Amino acids D) A and C
- 17- In drying feed method, if the drying time is too long the feed will .....  
A) Ferment B) wet C) Solid D) Dried.
- 18- Use of the wrong ingredient will greatly effect on your ..... of fish or shrimp production.  
A) Quantity B) Quality C) Costs D) No answer
- 19- Mixing time of at least ..... minutes after the last ingredient has been added to the mixer.  
A) 5 minutes B) 10 minutes C) 15 minutes D) 20 minutes.
- 20- The rate of feed production will ..... as the die hole selected gets smaller.  
A) Increase B) Moderate C) Decrease D) No answer
- 21- The pellet should be firm with a water stability of at least .....  
A) 10 minutes B) 20 minutes C) 30 minutes D) 40 minutes

- 22- Good feed must be easy .....  
 A) Ingestion B) Digestion C) Absorption D) All of them
- 23- Good feed must be ..... sources.  
 A) Plant B) Animal C) A and B D) No answer
- 24- Temperature increases sufficient to cause ..... can occur in stacked feeds.  
 A) Fire B) Condensation C) Light D) All of them
- 25- Most fungal growth occurs at relative humidity above .....%  
 A) 85 B) 75 C) 65 D) 55
- 26- Rancid fats reduce the ..... of the feed.  
 A) Palatability B) Availability C) amino acids D) A and B
- 27- When making fish silage, the raw material is first .....  
 A) Mixing B) Minced C) Drying D) All of them
- 28- During making fish silage, fresh fish liquefy much more quickly than ..... fish.  
 A) Fresh B) Stale C) Frozen D) No answer
- 29- Silage made from fresh white fish offal takes about 5-10 days at .....°C.  
 A) 5 B) 10 C) 15 D) 20
- 30- Fish silage is used in the same way as ..... in animal feed.  
 A) Squid meal B) Fish meal C) Liver meal D) Shrimp meal

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

- A- Moisture is an important diluent of the nutrients in feedstuffs (Explain)?
- B- Fish is more efficient users of food than other animals. (Explain)?
- C- What are the different types of feeds of animal origin?
- D- Formic acid, is a good choice for use to making fish silage (Explain)?
- E- Explained by only drawing with writing data schematic representation of the steps involved in the manufacture of dry, pelleted fish feeds?

With my best wishes

Prof. Dr. Malik M. Khalafalla





**Botany Section: Answer the Following Questions:- (25 marks)**

**I- Define biogeochemical cycles and explain with drawing Nitrogen cycle: (5 marks)**

**II- In a Table, Choose the correct answer: - (10 marks)**

<b>1- Fresh water ecosystem in which oxygen and nutrient content are uniform is called:</b>			
a- Lakes	b- Streams	c- Pond	d- Fresh water wetlands
<b>2- The small, but more active portion that is exchanging rapidly between organisms and their immediate environment is called:</b>			
a- Reservoir pool	b- Cycling pool	c- a & b correct	d- a & b incorrect
<b>3- Estuary is:</b>			
a- A very rich in biodiversity and nutrients		b- The coastal area where river meet ocean	
c- Protected from pollution and many species are endemic		d- All the above	
<b>4- Some elements which needed in a large quantities are called:</b>			
a- micronutrients	b- macronutrients	c- essential elements	d- Large elements
<b>5- Autoecology which deals with the study of:</b>			
a- Groups of organisms, which are associated together as a unit		b- physiological ecology	
c- community ecology		d- None of the above	
<b>6- Lakes that contains high saline water due to over evaporation are called:</b>			
a- Eutrophic lakes	b- Oligotrophic lakes	c- Desert salt lakes	d- Coastal lakes
<b>7- The grazing food chain:</b>			
a- starts from producers, goes to herbivores, carnivores and on to microorganisms.		b- starts from producers, goes to herbivores and on to carnivores	
c- starts from dead organic matter into microorganisms and then on to detritivores		d- starts from a green plants base and on to grazing herbivores.	
<b>8- The water Cycle is one of:</b>			
a- sedimentary types	b- gaseous types	c- a & b correct	d- a & b incorrect
<b>9- The first trophic level in the ecosystem and form the base of the food chain is:</b>			
a- decomposers	b- Primary consumers	c- Producers	d- B & C are correct
<b>10- The ecosystem is defined as:</b>			
a- Any unit of atmosphere that have all of the organisms interacting with the physical environment		b- All living communities and their associated non-living environmental components in a defined area	
c- Any unit of lithosphere that have biotic components interacting with abiotic components		d- All the above correct	

Answer  
/11

.. Put (✓) on the right answer or (X) on the false one (10 marks)-

- 1- The marine ecosystems have certain unique features than terrestrial ecosystems
- 2- The pyramid of biomass is of more fundamental than energy one
- 3- Macronutrients are elements that are needed in large quantities
- 4- decomposers are always the final trophic level of food chain
- 5- The only main source of carbon in Carbon cycle is atmospheric CO<sub>2</sub>
- 6- Oxygen plays an important role in the cycling of phosphorus
- 7- Organisms whose food is obtained from plants by the same number of steps are belong to the same trophic level
- 8- Pond ecosystem is a permanent in nature
- 9- The concentration of dissolved nutrients is low in aquatic ecosystem as compared with terrestrial one
- 10- Community is all species that live in the same place at the same time

End of the exam

*With best wishes*



1. a specific factor is available in sufficient quantity and does not restrict the growth.
  2. a specific factor is not available in sufficient quantity and does not restrict the growth.
  3. a specific factor is not available in sufficient quantity and restricts the growth.
  4. a specific factor is available in sufficient quantity and restricts the growth.
  5. None of the above.
10. Producers occupy
1. Three trophic levels
  2. One trophic level
  3. Four trophic levels
  4. Two trophic levels
11. An organism's niche includes
1. Only the animal's habitat.
  2. Only the physical and chemical tolerance limits.
  3. All of the characteristics of its way of life.
  4. Only its food, behavior and habits.
  5. None of the above.
12. Water temperature tends to be stratified, especially during summer in deeper ponds and lakes of the
1. polar zone
  2. temperate zone
  3. tropical zone
  4. subtropical zone
  5. none of the above
13. Zooplankton, mostly rotifers and small crustaceans are abundant in the
1. Littoral zone of the lake.
  2. Limnetic zone of the lake.
  3. Profundal zone of the lake.
  4. None of the above.

END OF EXAM

How to answer

Put your answer (only numbers) in a table like the following (only in one page)

Question number	Answer number	Mark





(25 marks, 2 marks each (Q. 13) 1 mark)

1. Study of the exchanges of energy, materials, organisms and other products between ecosystems is called
  1. organismal ecology
  2. population ecology
  3. community ecology
  4. landscape ecology
  5. global ecology
2. The only place on earth that the sun ever shines directly overhead is
  1. The temperate zone
  2. The polar zone
  3. The subtropical zone
  4. The tropical zone
  5. None of the above
3. ----- lies between  $30^{\circ}$  N and  $60^{\circ}$  N in the Northern Hemisphere and between  $30^{\circ}$  S and  $60^{\circ}$  S in the Southern Hemisphere.
  1. The polar zone
  2. The temperate zone
  3. The tropical zone
  4. The subtropical zone
  5. None of the above
4. Ecological studies of seasonal bodies of water belong to
  1. Marine ecology
  2. Freshwater ecology
  3. Estuarine ecology
  4. None of the above
5. The pond succession stages include a progressively shallowing stage, which time does this stage occur
  1. In the beginning
  2. At the end
  3. In the midtime
  4. None of the above
6. Trophic levels contain
  1. groups of organisms with similar methods of reproduction.
  2. groups of organisms with similar methods of excretion.
  3. groups of organisms with similar methods of energy consumption.
  4. groups of organisms with the same sex.
  5. groups of organisms with similar methods of movement.
7. Primary production can be identified as
  1. The total amount of oxygen per unit of time produced by plant tissues.
  2. The total amount of carbon dioxide per unit of time produced by plant tissue.
  3. The total amount of energy per unit of time fixed as plant tissue.
  4. The fractional amount of energy per unit of time fixed as plant tissue.
  5. The total amount of energy per unit of time fixed as animal tissue.
8. If the energy content in the producers is 59862 unit, how many unit are going to transfer to the primary consumers. Is it
  1. 17958.6 unit
  2. 23944.8 unit
  3. 5986.2 unit
  4. 11972.4 unit
  5. 53875.8 unit
9. Limiting factor can be identified as

Kafrelsheikh Uni.  
Fac. Of Aquatic and Fisheries Science  
Level: 2  
Subject: Introduction to Food Science and Technology  
Name: Final exam during academic year 2019/2020



Date: 2/1/2020  
Time: 2 hours  
Total marks: 50  
Academic Number:

- 6- The Energy activity of most men in light industry, students and workers in stores  
a- (Energy activity is limited), b- (Energy average activity),  
c- (Energy activity thumping)
- 7 - Tunnel dryers used to drying.  
a- (Liquid foods), b- (Solid foods), c- (Semi liquid foods)
- 8- That the amount of energy needed to raise the temperature of 1 gram of water of 14.5 degrees Celsius to 15.5 degrees Celsius .  
a- (Calorie) B- (Joule) c- (Kilo Calorie)

**B- Mention:**

- 1- Organization and personnel at Good manufacturing practice GMP.
- 2- Steps of new food products.

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,,, Good Luck,,,

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Kafrelsheikh Uni.  
Fac. Of Aquatic and Fisheries Science  
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Date: 2/1/2020  
Time: 2 hours  
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Academic Number:

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

**Answer the following questions:**

(12 marks)

**First question:**

Complete the following sentences:

- 1- Bacteria generally prefer ..... acid foods and destroyed at .....°C in food canning.
- 2- All animals' proteins are ..... biological value.
- 3- Methods of food preservation by heat such as ..... and .....
- 4- Fish oil is rich in energy and ..... soluble vitamins.
- 5- When the temperature raises the time of sterilization .....
- 6- Natural food preservatives such as ..... and ..... and .....
- 7- Water makes up more than ..... of the weight of the human body.
- 8- Essential minerals in human body such as ..... and ..... while trace elements such as .....
- 9- Oil is extracted from some plant seeds such as ..... and ..... and .....
- 10- The disadvantage of blanching methods is that many ..... are lost in the hot water.
- 11- Alcoholic fermentation which converts ..... to producing ..... and ..... gas by ..... cells.
- 12- Sweeteners are high sweet taste such as ..... and .....

(18 marks)

**Second question:**

**A - Mention:**

- 1- Function of food.
- 2- Main steps of food canning.
- 3- Steps of fish smoking.
- 4- Causes of food spoilage.

**B - Define:**

Food canning - Stable foods - Food spoilage.

(20 marks)

**Third question:**

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

- 1- Fluid accumulates after intensify  
a- (Compressor), b- (Condenser), c- (receiver)
- 2- Helps to absorb the coolant temperature to turn into gas  
a- (Compressor), b- (Condenser), c- (Evaporator)
- 3- This processes Lead to a increase of microbial and enzymatic activity  
a- (freezing), b- (Speed Thawing), c- (Slow Thawing)
- 4- It is the latent heat needed to convert material from the solid to liquid phase and vice  
a- (Latent heat of evaporation), b- (Latent heat of sublimation),  
c- (Latent heat of fusion)
- 5- 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)

← انتظر خلفه ← Continued

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Kafrelsheikh University  
Faculty of Aquatic and  
Fisheries Sciences



2019/2020

Subject: Small  
Agricultural Projects  
Level: Second year  
students  
Time: 2 hours

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Exam Committee:

Prof. Dr./ Said Mahmoud; Prof. Dr./ Mostafa Abdelrahman; Prof. Dr./ Fawzy Magouz

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**- Please write short notes on only seven of the following points:**

- 1- The natural and semi-artificial spawning of sea bass.
- 2- The items of the administrative expenses of marine floating cages project.
- 3- The general processes for fish cage management during the culture season.
- 4- Features of bees breeding as an economic project.
- 5- Infectious diseases of Muscovy ducks with consider to cause, symptoms and prevention and treatment program.
- 6- Factors affecting the production of fish in floating cages.
- 7- Features that are introduced by the animal insurance fund to the animal breeders.
- 8- Composition of bee's honey.
- 9- Consideration that must be taken into account when choosing meat animals for fattening.

**Good luck**