Final term Exam

جامعة دمياط
Damietta University

Department: Zoology | **Major:** Zoology | **Course Title:** Animal Ecology
Code number: 302 Z | **Mark:** 90 | **Date:** 15/01/2025

الإمتحان في صفحتين:

Answer the Following Questions:

QUESTION ONE: (30 Mark, 3 each)

Choose the multiple choices:

1. Some bloodsucking insects insert their mouthparts directly into a blood vessel and withdraw blood. Other bloodsucking insects have mouthparts that cut through the skin and blood vessels and produce a small pool of blood from which they feed. Both mouthpart types are specialized for
   A. autotrophic nutrition (B) heterotrophic nutrition
   C. regulation D. excretion

2. One biotic factor that affects consumers in an ocean ecosystem is
   (A) number of autotrophs B. temperature variation
   C. salt content D. pH of water

3. Decomposers are important in the environment because they
   A. convert large molecules into simpler molecules that can then be recycled
   B release heat from large molecules so that the heat can be recycled through the ecosystem
   C. can take in carbon dioxide and convert it into oxygen
   D. convert molecules of dead organisms into permanent biotic parts of an ecosystem

4. A new island formed by volcanic action may eventually become populated with biotic communities as a result of
   A. a decrease in the amount of organic material present
   B. decreased levels of carbon dioxide in the area
   C. the lack of abiotic factors in the area
   (D) the process of ecological succession

5. One biotic factor that limits the carrying capacity of any habitat is the
   A. availability of water B. level of atmospheric oxygen
   (C) activity of decomposers D. amount of soil erosion

6. A particular species of unicellular organism inhabits the intestines of termites, where the unicellular organisms are protected from predators. Wood that is ingested by the termites is digested by the unicellular organisms, forming food for the termites. The relationship between these two species can be described as
   A. harmful to both species B. parasite/host
   (C) beneficial to both species D. predator/prey

7. The reason that organisms cannot produce populations of unlimited size is that
   (A) the resources of Earth are finite
   B. there is no carrying capacity on Earth
   C. species rarely compete with one another
   D. interactions between organisms are unchanging

8. . The size of a mouse population in a natural ecosystem tends to remain relatively constant due to
   (A) the carrying capacity of the environment B. the lack of natural predators
   C. cycling of energy D. increased numbers of decomposers

9. Which type of organism can obtain energy directly from any of the other organisms in an ecosystem?

A. herbivore

B. decomposer

C. producer

D. carnivore

10. The size of a frog population in a pond remains fairly constant over a period of several years because of

A. decreasing competition

B. environmental carrying capacity

C. excessive dissolved oxygen

D. the depth of water

QUESTION TWO: (20 Mark)

A. Write the meaning/definition for each term: Keystone species, trophic structure, ecological succession, population dynamics, Harem polygany, nich e, dominant species, evolution, bottleneck effect, and invasive species.

B. Differentiate between the following

1- Bottom-Up and Top-Down Controls.

2- Fundamental niche and Realized niche.

QUESTION THREE: (20 Mark)

A. Predator-prey relationships also are dynamic through evolutionary time. Often involve an evolutionary "arms race." Natural selection simultaneously drives the predators toward greater hunting efficiency and the prey toward traits that help them avoid being eaten. According to the previous statement, predators and prey have different defense mechanisms against each other. (10 Mark)

B. "Food is one of essential requirements for all living organisms". Describe the feeding relationships depends on feeding process and how far this can shape the community. (10 Mark)

QUESTION FOUR: (20 Mark)

Differentiate between the following, 5 Mark each:

1- Ecosystem structure and function.

2- National parks and zoos.

3- intersexual selection and intrasexual selection.

4- Monogamous and polygamous mating systems.

With Best Wishes

Prof. Dr. Basma Sheta