

End of Course Exam

Life Science B

Ecology

1. a-b) Describe biodiversity. Explain the four changes that can affect an ecosystem.

c) What factors in an ecosystem determine fluctuations in population size?

d) Diagram: 1) water cycle, 2) oxygen-carbon dioxide cycle, and 3) nitrogen cycle.

e) Explain how the stability of an ecosystem hinges on its producers and decomposers.

f) Diagram: 1) a food chain and 2) a food and energy pyramid.

Physiology

2. a) Explain the process of: 1) respiration, 2) circulation, and 3) excretion. Define homeostasis.

b) Describe how the nervous system mediates the communication between the different parts of the body and interactions with the environment.

c) How do the nervous system and the endocrine systems work together to regulate conditions in the body?

d) Define the nervous system and explain the role of neurons.

e) Define sensory neurons, interneurons, and motor neurons and explain their roles in sensation, thought, and response.

3. a) How does your skin protect your body against infection?

b) What is the role of antibodies in the body's response to infection?

c) How can vaccination protect you from infectious diseases?

d) Describe the differences between bacteria and viruses, the body's defenses, and the treatment for each.

e) Explain why an individual with a compromised immune system (such as AIDS) may be unable to fight off and survive infections that are usually benign.