

PART A: MULTIPLE CHOICE (10 MARKS)

Choose the best response in each case and place your answer in the appropriate space on your answer sheet.

- Frogs are particularly good indicators of ecological damage to the environment because:
 - pollutants can enter their bodies directly through their skins.
 - they are susceptible to ultraviolet radiation.
 - their ability to reproduce is affected by acid rain.
 - of all of the above reasons.
- Which one of the following statements is true?
 - Tadpoles and adult frogs are both herbivores.
 - Tadpoles are carnivores and mature frogs are herbivores.
 - Tadpoles are herbivores and mature frogs are carnivores.
 - Tadpoles and mature frogs are both omnivores.
- Biodiversity is a term that is used to describe differences that exist in the:
 - sizes of populations.
 - abiotic environment.
 - variety of organisms.
 - rates of reproduction.
- Although top carnivores are not preyed upon by any other organisms, they may be used for food while they are still alive by:
 - carnivores.
 - decomposers.
 - omnivores.
 - parasites.
- A group of organisms of different species that live and interact together is referred to as a(n):
 - ecosystem.
 - community.
 - population.
 - biome.
- If you wished to compare the abiotic factors in two different ecosystems, you would:
 - take the readings at the same time in each location.
 - take the readings when the Sun is the same number of degrees above the horizon at one location in the morning and the other location in the evening.
 - wash the instruments between readings.
 - wait for a cloudy day.
- The term "consumer" is used to define an organism that:
 - may eat plants or animals.
 - eats only plants.
 - eats only animals.
 - causes decomposition in dead organisms.
- An organism that cannot produce its own food from basic nutrients is called a(n):
 - autotroph.
 - heterotroph.
 - producer.
 - energy source.
- An example of an autotroph is:
 - a rock.
 - a deer.
 - a maple tree.
 - the Sun.
- Most artificial ecosystems:
 - show greater biodiversity than natural ecosystems..
 - show less biodiversity than natural ecosystems.
 - maintain themselves without human assistance.
 - provide a large variety of niches for different species.

PART B: MATCH (5 MARKS)

Match the definition from the 1st column to the best term in the 2nd column and place the matching letter in the appropriate space on your answer sheet.

- | | |
|--|------------------|
| 1. The non-living environment. | A) abiotic |
| 2. Obtain nourishment from the biotic environment by consuming other living organisms. | B) biosphere |
| 3. Consumer of dead organisms, such as a jackal. | C) biotic |
| 4. Tells how directly a consumer interacts with the producers of its ecosystem. | D) consumer |
| 5. Describes a single feeding sequence in which each organism eats the one below it. | E) decomposer |
| | F) food chain |
| | G) food web |
| | H) producer |
| | I) scavenger |
| | J) trophic level |

PART A: MULTIPLE CHOICE (10 MARKS)

1	2	3	4	5	6	7	8	9	10
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PART B: MATCH (5 MARKS)

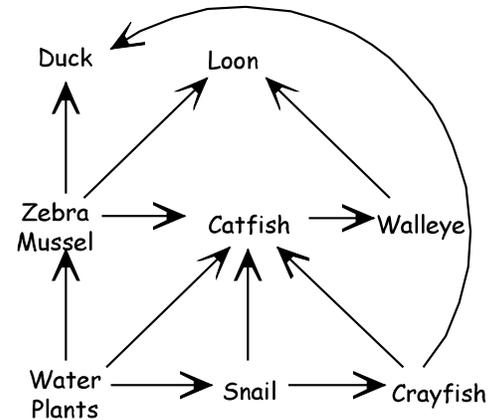
1	2	3	4	5
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PART C: SHORT ANSWER (30 MARKS)

Answer questions 1 to 3 in the space provided. Answer questions 4 and 5 on the back of this sheet

{10} 1. Use the simple food web to the right to answer the following questions.

- | | | | |
|--|-------|-----------------------------|-------|
| (a) # of food chains | _____ | (f) # of top carnivores | _____ |
| (b) # of autotrophs | _____ | (g) # of omnivores | _____ |
| (c) # of heterotrophs | _____ | (h) # of herbivores | _____ |
| (d) # at 2 nd trophic level | _____ | (i) # of tertiary consumers | _____ |
| (e) # of carnivores | _____ | (j) highest trophic level # | _____ |



{1} 2. From the food web diagram above pick a food chain with only 5 trophic levels and reproduce it in the space provided below.

↑	↑
↑	↑
↑	↑
↑	↑
ASAP	100%

{1} (a) If 100% of energy is available in the 1st trophic level, indicate the % of energy available at the remaining levels.

{2} (b) If 50 kJ of energy is available at the 3rd trophic level, how much energy (in kJ) is available at the:

- (i) 5th trophic level? _____
- (ii) 2nd trophic level? _____

3. In class we compared a natural and artificial ecosystem.

{2} (a) Explain the difference between the two.

{4} (b) List 2 abiotic and biotic factors of a park or meadow.

	abiotic	biotic
①		
②		

{2} (c) List 2 reasons why humans would select one plant over another in a park.

- ① _____
- ② _____

{2} (d) Which ecosystem demonstrates the lesser biodiversity? Why?

{3} 4. Do zoos maintain niches or habitats for the occupants? Explain.

{3} 5. Wolves are carnivores. Explain how placing a bounty on wolves may cause a significant loss in vegetation.