|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 | a | b | c | **d** |
| 2 | a | b | **c** | d |
| 3 | a | **b** | c | d |
| 4 | a | b | c | **d** |
| 5 | a | b | **c** | d |
| 6 | a | **b** | c | d |
| 7 | a | b | **c** | d |
| 8 | a | b | c | **d** |
| 9 | a | **b** | c | d |
| 10 | a | **b** | c | d |
| 11 | a | b | c | **d** |
| 12 | a | b | **c** | d |
| 13 | a | b | **c** | d |
| 14 | a | b | c | **d** |
| 15 | a | **b** | c | d |

**SECTION ONE:** Multiple choice answers

Cross (X) through the correct answer.

**Short Answer Section:**

**Question 1.**

What is the difference between a food web and a food chain? (2 marks)

Food chain is who eats who (1)

Food web are all food chains in ecosystem represented (1)

**Question 2.**

The following diagram shows a simplified food web occurring in a freshwater lake community in Southern Australia.

Diagram

Description automatically generated

1. Write down two different food chains from this food web.(4 marks)

Grasses -> insects -> beetles -> toads -> hawks

Grasses -> mice -> feral cats

1. Using the food web above, describe the impacts of the snake being removed. (2 marks)

Cannot be eaten by predator hawk (1).

Cannot eat prey of eg. mice (1).

1. What is the difference in the impact if one organism is removed from a food chain compared to if one is removed from a food web? (2 marks)

Same effect (1)

If one removed from food chain and food web, other species would cease to exist also (1).

1. Explain why in this food web grasses and other plants are autotrophs and why feral cats are heterotrophs. (2 marks)

Plants producers are autotrophs because they make their own food (1) Consumers like feral cats gain energy from producers and don’t make own food (1).

**Question 3.**

Each of the organisms in the food web is made of matter. Matter is said to cycle through the ecosystem. Using the Carbon Cycle as an example, explain how matter cycles. (3 marks)

Matter in soil from dead organisms and waste products (1)

Cycles into atmosphere as carbon dioxide and through emissions (1)

Plants soak carbon dioxide which back into soil through roots (1)

**Question 4.**

Complete the following table by providing two examples of Abiotic and Biotic factors. (4 marks)

|  |  |
| --- | --- |
| Abiotic factors | Biotic factors |
|  |  |
|  |  |

Abiotic factors (any two 1 mark each) – air, pH, salinity, soil, water, light, temperature, humidity, minerals and nutrients.

Biotic factors (any two 1 mark each) – fungi, animals, plants, bacteria, protists, archaea

**Question 5.**

Match the following terms to the definition: (4 marks)

(Draw a line between the two)

|  |  |  |
| --- | --- | --- |
| **Term** |  | **Definition** |
| Predator – Prey |  | The rivalry between or among living things for territory, resources, goods, mates, etc. |
| Parasitism |  | An organism that eats another organism |
| Competition |  | An interaction between individuals of different species that results in positive (beneficial) effects |
| Mutualism |  | The practice of living as a parasite on or with another animal or organism |

**Extended Response**

**Question 6.**

After several visits to a freshwater stream community and a long practical study, a class of Year 12 Biology students identified and observed many organisms. They gathered the following pieces of information:

Tadpoles feed on water fleas, protozoa, and green algae.

Mosquito larvae and protozoa feed on green algae.

Fish feed on water fleas, tadpoles, and mosquito larvae.

1. Construct a food web from the above information. (6 marks)

|  |
| --- |
| Fish (1)  Tadpoles (1)    Water fleas (1)    Mosquito Larvae (1)  Protozoa (1)  Green algae (1)  ***\*\*\*\*\*\*1 mark off each mistake\*\*\*\*\**** |

**END OF TEST**