

**YEAR: 12**

**GENERAL BIOLOGY**

**TASK 9: ECOSYSTEMS TEST 2022**

**MULTIPLE CHOICE QUESTION SHEET**

**Please do not mark this paper**

**Multiple Choice Questions:**

1. How is carbon stored in the biosphere?
   1. In the atmosphere as carbon dioxide.
   2. Underground as fossil fuels and calcium carbonate rock.
   3. In the oceans as dissolved carbon dioxide.
   4. All of the above.
2. Plants are examples of:
   1. Decomposers.
   2. Carnivores.
   3. Producers.
   4. Consumers.
3. Bacteria and fungi belong to an ecosystem groups called:
   1. Herbivores.
   2. Decomposers.
   3. Plants.
   4. Composers.
4. **In the Nitrogen Cycle, nitrification caused by bacteria is the process which:**
   1. **Ammonia converted into nitrite ions**
   2. **Ammonia converted in nitrate ions**
   3. **Ammonia converted into nitrogen ions**
   4. **Ammonia converted into nitrate and nitrite ions**
5. Which of the following is the best definition for an omnivore?
   1. an organism that feeds on dead things
   2. an animal that eats plants only
   3. an organism that eats both plants and animals
   4. an organism that eats animals
6. What do the arrows in a food web and food chain represent?
   1. the organism that eats the other
   2. the flow of energy
   3. the organism that is eaten by the other
   4. the herbivores in the system
7. As you move up the food web:
   1. the number of organisms stays the same, but the size decreases
   2. the number of organisms increase
   3. the number of organisms decreases
   4. the number of organisms stays the same, but the size increases
8. Use the food web below to answer questions 7-9.

Timeline

Description automatically generated with low confidence

How many primary consumers are in the food web?

* 1. 2
  2. 3
  3. 4
  4. 5

1. Which of the organisms are both secondary and tertiary consumers in this food web?
   1. 3
   2. 2
   3. 5
   4. 4

Chart, box and whisker chart

Description automatically generated



1. A
2. B
3. Both
4. Neither
5. If decomposers were removed from this food web:
   1. nutrients would not be returned to the soil in order for producers to grow healthy.
   2. waste and dead organisms would pile up.
   3. there would be a break down in the flow of energy.
   4. all of the above.
6. What is the biggest environmental comparison between Mitchell Grass Downs and Mangrove Forests in Queensland?
   1. Salinity
   2. Deforestation
   3. Humidity
   4. Urbanisation
7. What is the primary source of energy for all life on earth?
8. Plants
9. Animals
10. The Sun
11. Decomposers
12. Only 10 percent of the energy stored in an organism can be passed on to the next trophic level. Of the remaining energy, some is used for the organism’s life processes, and the rest is:
    1. used in reproduction.
    2. stored as fat.
    3. stored as body tissue.
    4. eliminated as heat.

Diagram

Description automatically generated

In the energy pyramid above, which organisms have the most energy available?

1. Carnivores
2. Producers
3. Top Predators
4. Herbivores

**END OF MULTIPLE CHOICE SECTION**

 **Year 12 General Biology Answer Booklet**

|  |
| --- |
| Name: |
| Teacher: Miss Cunningham |

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| --- | --- | --- | --- |
| **Task 9: Ecosystems Test 2022** | | | Weighting 8.75% |
| Marks Received | Marks Available | Percentage | |
|  | 44 |  | |

Time Allocated:

Working time: 60 minutes

**Multiple Choice Short Answer Extended Response**

**/23**

**/15**

**/6**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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)

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

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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)

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

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**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)

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**Question 4.**

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

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

**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)

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**END OF TEST**