

**YEAR: 9**

**2017**

**SUBJECT: Science**

**TEST: Ecosystems**

**TIME: 40 minutes**

**QUESTIONS: 6 Multiple Choice (6 marks)**

**1 Short Answer (29 marks)**

**1 Extended Answer (10 marks)**

**TOTAL MARKS: marks**

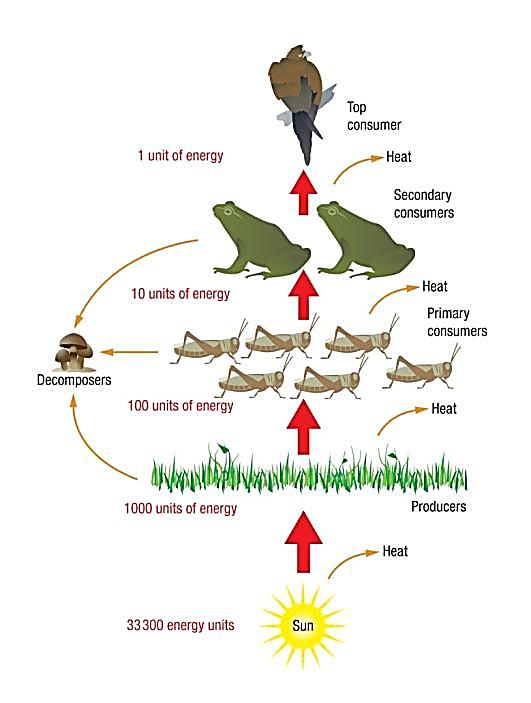
**DO NOT WRITE ON OR MARK THIS PAPER**

**SECTION ONE—MULTIPLE CHOICE** (6 marks)

This section has **6** questions. Answer **all** questions on the separate Multiple-choice Answer Sheet provided.

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1. In any ecosystem, bacteria and fungi are
2. herbivores
3. secondary consumers
4. decomposers
5. producers
6. The energy from sunlight is converted into chemical energy
7. in nuclei
8. in photosynthesis
9. in respiration
10. using the oxygen from carbon dioxide

**Refer to the diagram below to answer questions 3, 4 and 5:**

1. There are more organisms at the bottom of the food pyramid because

a) top consumers eat more than secondary consumers

b) primary consumers reproduce more quickly than secondary consumers

c) the amount of energy available to support organisms further up the pyramid decreases

d) secondary consumers eat more than primary consumers

1. A possible food chain from the pyramid would be:
2. grasshopper → eagle → frog → fungus
3. Sun’s energy → grass → grasshopper → eagle
4. Sun’s energy → grass → fungus → grasshopper
5. eagle → frog → grasshopper → grass
6. Which of the following statements is **incorrect**?

a) Nutrients and energy flow through the pyramid

b) All of the organisms respire

c) There are several possible food chains in this food web

d) The source of energy in this system is the Sun

1. Consider the following four statements about photosynthesis:
2. It requires carbon dioxide and water.
3. It requires glucose and oxygen.
4. It produces carbon dioxide and water.
5. It produces glucose and oxygen.

Which of these statements are correct?

1. II and IV
2. I and IV
3. I and III
4. II and IV

**END OF MULTIPLE CHOICE SECTION**



**SEMESTER TWO 2017**

**Ecosystems Test:**

**ANSWER BOOKLET**

**NAME:**

**FORM:** **DATE:**

Multiple Choice Short Answer Extended Answer Total

**/41**

**/10**

**/25**

**/6**

**SECTION ONE:** Multiple choice answers

Cross (X) through the correct answer.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **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 |

**SECTION TWO: Short Answer (29 marks)**

Answer the questions in the spaces provided.

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1. Read the following scenario and answer the following questions

Desmond the dolphin inhabits the ocean ecosystem in the cool waters surrounding Point Perron. Desmond is a bottlenose dolphin and he actively seeks out his diet of fish, such as catfish and squid.

1. In the table below, list some of the biotic and abiotic factors that can affect Desmond’s estuary ecosystem

**(6 marks)**

|  |  |
| --- | --- |
| Abiotic | Biotic |
| 1. | 1. |
| 2. | 2. |
| 3. | 3. |

1. State and describe the relationship between Desmond the dolphin and a tape worm **(5 marks)**

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Desmond also survives on crustaceans. Desmond has a strong tail that allows him to swim away from his predators such as sharks and killer whales.

The seafloor of Point Perron is covered with sea grass that the catfish eat. The sea grass is able to grow because of the large amount of sunlight reaching the sea floor. Bacteria and other microorganisms also thrive in this ecosystem.

1. Using all the information given and some of your own knowledge about the ocean ecosystem, construct a labelled food web with at least two (2) producers, three (3) first-order consumers, Desmond the dolphin, and a top consumer. **(7 marks)**
2. Include and label the source of energy for this ecosystem **(1 mark)**
3. Compare and contrast the flow of energy and matter in a food web. You can use the food web you constructed as a reference. **(4 marks)**

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1. Whales and sea birds both feed on krill. Describe this kind of relationship. **(2 marks)**

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**SECTION THREE: Extended Answer (10 marks)**

Answer the question in the space provided.

Study the food web below showing the organisms in a forest ecosystem. Nearby this forest, a new suburb is being built. Once families and their pets move in, both feral and domesticated cats disrupt this ecosystem by preying on all the birds.



Formulate a response that includes the following:

* 1. State the changes that happened in this ecosystem
  2. Describe the immediate effect that it may have on organisms

(HINT: you may want to draw a food chain to find out the organisms that have **direct** and **immediate** effect)

* 1. Predict the future impacts on the ecosystem

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**END OF TEST**

**Please check your work!**