9 SCIENCE 2015

BIOLOGY TEST TWO

Name: _____ **Teacher:** _____ **Mark:** /49

Percentage: %

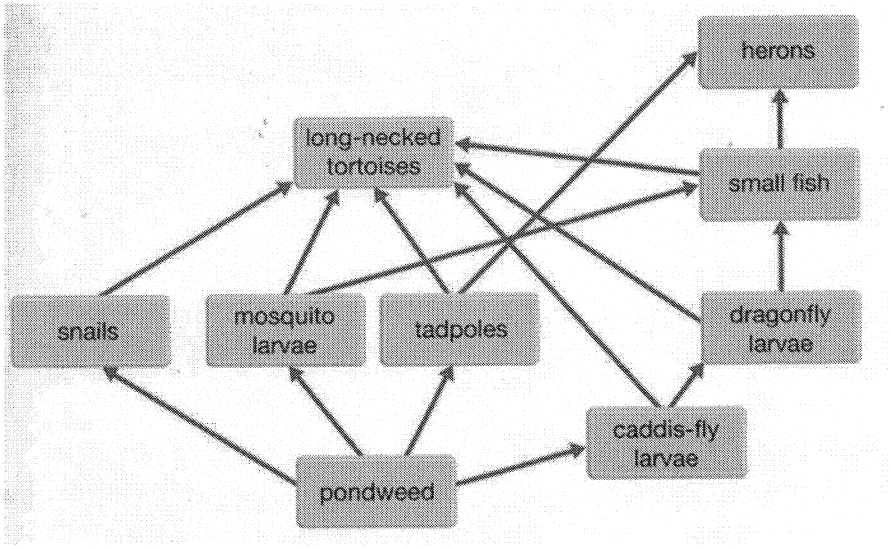
SECTION A: **MULTIPLE CHOICE** **(10 marks)**

Please circle your answer on the multiple choice answer grid below.

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

ANSWER KEY

Questions 1-3 are based on the food web below.



1. Identify which of the following relationships in the table are correct.

Answer	Predation	Competition
(a)	Small fish and mosquito larvae	Tadpoles and dragonfly larvae
(b)	Snails and pondweed	Heron and small fish
(c)	Heron and small fish	Heron and long-necked tortoise
(d)	Long-necked tortoise and tadpoles	Tadpoles and small fish

2. If the lake was sprayed with a chemical to kill the mosquitos, identify the most likely effect.

(a) The amount of pondweed would decrease.
(b) The tadpole population would decrease.
(c) Most of the herons would migrate out of the area.
(d) The population of small fish would decrease.

3. If a disease killed most of the long-necked tortoises, identify a likely short-term change in the ecological system.

(a) Rapid increase in the numbers of small fish.
(b) Decrease in the numbers of heron.
(c) Rapid increase in the biomass of pondweed.
(d) No change in the biomass of caddis-fly larvae.

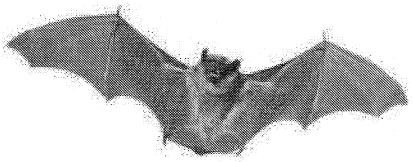
4. Select the abiotic factors below:

(a) temperature, predation, water.
(b) competition, soil type, fire.
(c) water, fire, temperature.
(d) soil type, parasitism, sunlight.

5. Your body sweating when you are hot is an example of:

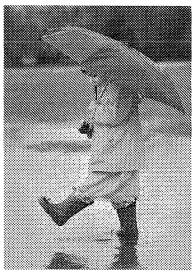
(a) a functional adaptation.
(b) a behavioural adaptation.
(c) a structural adaptation.
(d) an environmental adaptation.

6. A bat having wings is an example of:



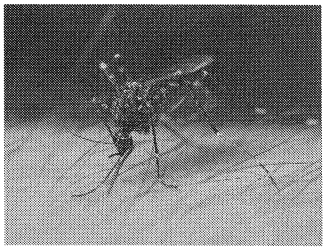
(a) an environmental adaptation.
(b) a behavioural adaptation.
(c) a functional adaptation.
(d) a structural adaptation.

7. Using an umbrella when it is raining is an example of:



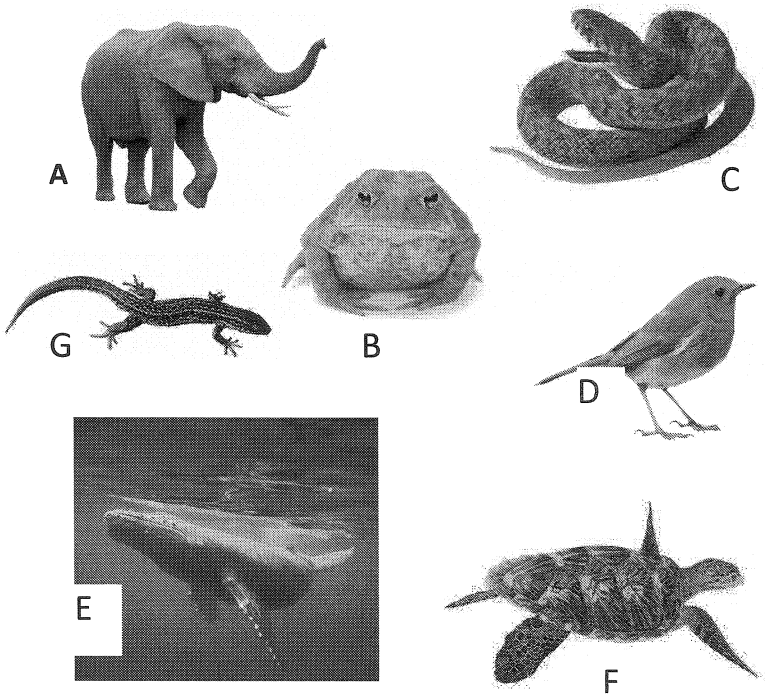
(a) a behavioural adaptation.
(b) a structural adaptation.
(c) a functional adaptation.
(d) an environmental adaptation.

8. This mosquito sucking the blood of a human is an example of:



(a) competition.
(b) decomposing.
(c) parasitism.
(d) predation.

Questions 9 and 10 are based on the image below.



9. The following organisms are endothermic:

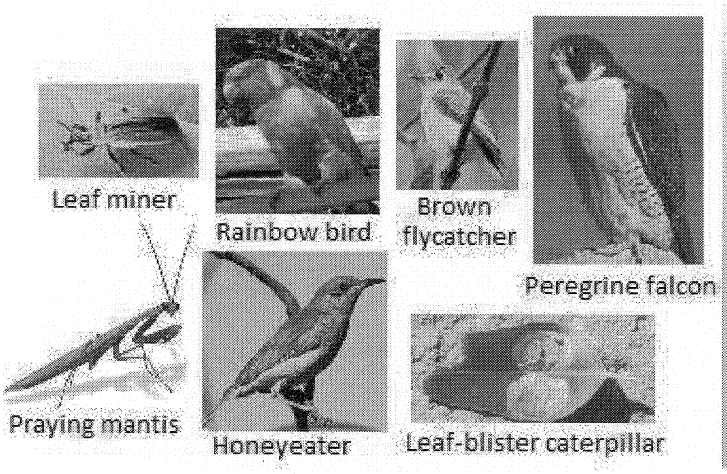
(a) A, D and E.
(b) F, E and A.
(c) C, A and B.
(d) A, D and F.

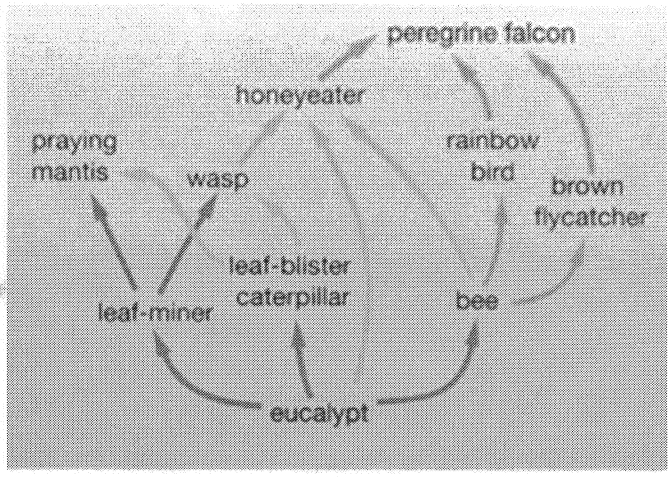
10. The following organisms are ectothermic.

(a) C, E and G.
(b) C, D and G.
(c) C, B and G.
(d) B, D and F.

SECTION B: **SHORT ANSWER** **(39marks)**

1. Look at the food web below and answer the following questions. (9 marks)





a) State the name of the producer: Eucalypt (0.5)

b) State the name of a herbivore: leaf miner, leaf-blister caterpillar or bee (0.5)

c) State the name of two first-order consumers:

Bee, leaf-miner, leaf-blister caterpillar

Any 2, (0.5) mark each

d) State the name of two carnivores: Brown flycatcher, rainbow bird, peregrine falcon, praying mantis, honeyeater, wasp

Any 2, (0.5) marks each

e) State the name of two third-order consumers:

Peregrine falcon (0.5), honeyeater (0.5)

f) List three different food chains containing the peregrine falcon:

Eucalypt → bee → brown fly catcher → peregrine falcon

Any 3, (0.5) marks each

g) List three animals that compete for bees as a food source:

Brown flycatcher (0.5), rainbow bird (0.5), honeyeater (0.5)

h) List two animals that compete for leaf-miners as a food source.

Praying mantis (0.5), wasp (0.5)

i) Write an example of a predator and prey.

Predator: _____ (0.5) Prey: _____ (0.5)

2. **Explain** the difference between the environment and the habitat of an organism. (2 marks)

The habitat is where an organism lives (1) whereas the environment is all the factors that affect the organism (1).

3. Write the word equation for photosynthesis. (2 marks)

-0.5 for each missing part

carbon dioxide + water $\xrightarrow[\text{chlorophyll}]{\text{sunlight}}$ glucose + oxygen

4. **List** two decomposers found in ecosystems. (1 mark)

Bacteria (0.5) fungi (0.5)

5. **Describe** two reasons why decomposers are vital for ecosystems to keep functioning. (2 marks)

- Without them, ecosystems would run out of resources.
- They allow matter to cycle in the ecosystem.
- They recycle matter for the producers to reuse.
- They break down dead bodies and wastes.

Any 2, (1) mark each

6. Answer the true/false questions below (circle your answer). (2 marks)

a) Energy does not cycle through ecosystems like matter does. (True) False (0.5)

b) Energy flow through food chains results in energy losses. (True) False (0.5)

c) Groups of similar ecosystems are called biomes. (True) False (0.5)

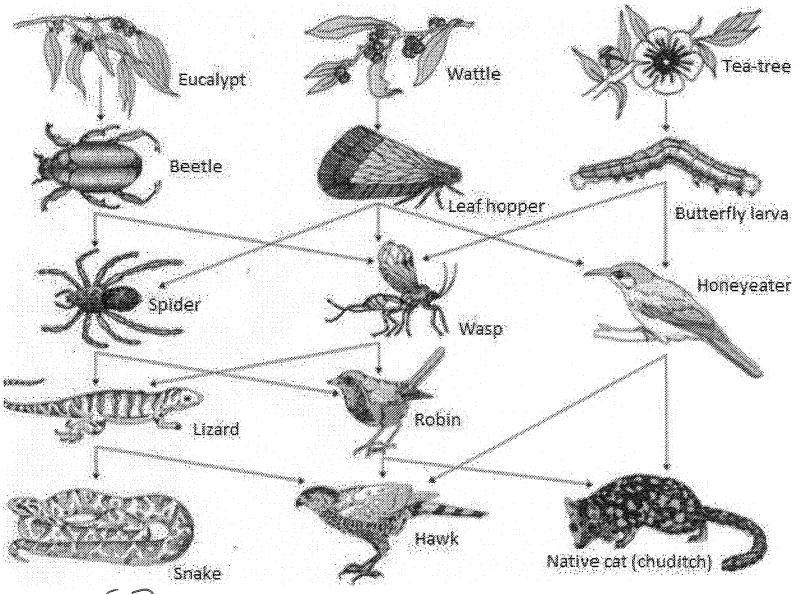
d) Competition can only occur between members of the same species. True (False) (0.5)

7. **Explain** why food chains are short and are unable to have more than just a few organisms. (2 marks)

There is energy lost (1) along the food chain so very little energy is available to the organisms by the time it reaches the end of the chain. There is not enough energy for more organisms in the chain. (1)

8. Look at the food web and answer the following question.

(8 marks)



If the amount of wattle increased, describe what you think would happen to each of the following populations and explain why.

a) Leaf hoppers: Leaf hoppers will (1) increase in numbers because there is now more food available so more can survive. (1)

b) Wasps: Wasps will (1) increase in number because the leaf hopper numbers increased providing more food for the wasps so more can survive. (1)

c) Honeyeaters: Honeyeaters will (1) increase in number because the leaf hopper numbers have increased. (1)

d) Beetles: Beetles will stay unaffected (1) either or if there is a large increase in wasp numbers more beetles may be eaten by the extra wasps. (1)

9. Write the correct letter next to the matching description. (6 marks)

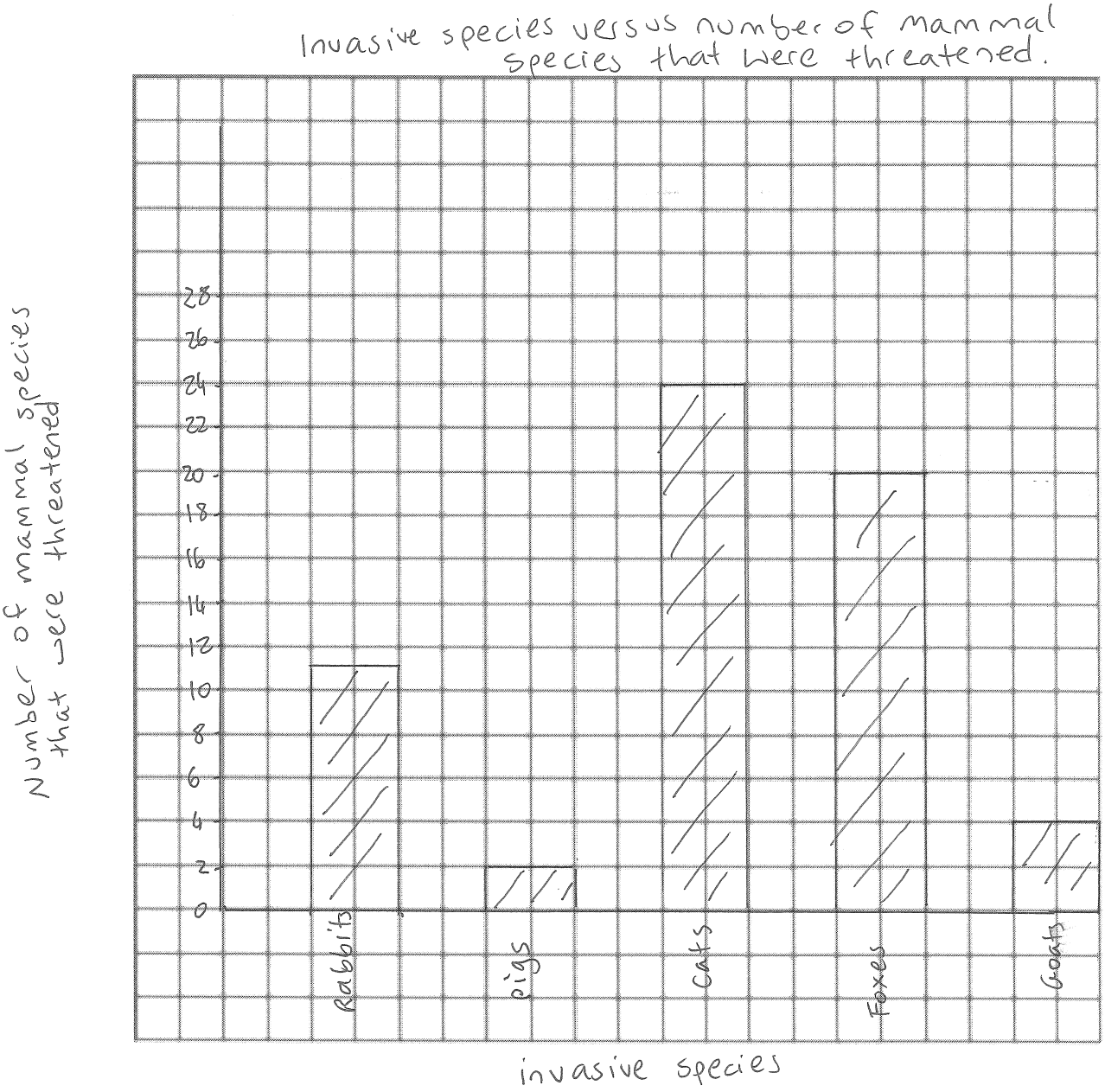
Term	Description	Matching letter
a) Predator	Close and often long-term interaction between two or more different biological species.	g
b) Habitat	Organisms that require a ready-made source of food.	h
c) Ecologist	The organism killing and eating another organism.	a
d) Parasitism	The animal being killed and eaten.	j
e) Producers	An area of the Earth made up of all the organisms and abiotic factors within its boundaries.	k
f) Host	An example of a symbiotic relationship.	d
g) Symbiosis	The organism that a parasite lives off.	f
h) Consumers	The organism that usually harms or sometimes kills the host.	i
i) Parasite	Organisms that make food for the community.	e
j) Prey	Someone who studies ecology.	c
k) Ecological system	All the factors in an organism's surroundings that affect it.	l
l) Environment	Where an organism lives.	b

(0.5) mark each

10. In Australia, in 2002, the number of mammal species that were threatened by invasive animals was recorded. The table on the right shows the data recorded.

Invasive species	Number of mammal species that were threatened
Rabbits	11
Pigs	2
Cats	24
Foxes	20
Goats	4

a) Draw a graph using the data in the table. (5 marks)



-1 mark for any errors