231/2
BIOLOGY
Paper 2
(PRACTICAL)
Oct./Nov. 2003
2¼ hours

1. You are provided with specimens labelled C, D and a solution labelled L

a) i) State the habitat of specimen C

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ii) Name the trophic level occupied by specimen C

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iii) Give a reason for your answer in (a) (ii) above

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b) i) Place 5cm³ of solution L into a 100ml beaker. Using a straw, blow gently into the solution

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ii) Give a reason for the observation in (b) (i) above

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c) Place 5cm³ of a solution L into a 100ml beaker. Using a pair of forceps, submerge specimen C into one of the 100ml beaker. Put the two beakers in the dark. Leave the set up for at least one hour and observe.

i) Record your observation

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ii) Explain the observation in (c) (i) above

.....

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d) Examine specimen D using a hand lens. Giving a reason, state the division to which the specimen belongs.

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e) What role is played by specimen D in an ecosystem

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f) Draw and label specimen D

You are provided with specimens labelled **P1, P2, P3, P4, P5** and **P6**.

A dichotomous key shown below can be used to identify them.

1.	(a)	Leaves simple	go to 2
	(b)	Leaves compound	*Cassia*
2.	(a)	Leaves green	go to 3
	(b)	Leaves purple	*Tradescantia*
3.	(a)	Leaves parallel veined	*Zea*
	(b)	Leaves net veined	go to 4
4.	(a)	Leaf margin serrated	go to 7
	(b)	Leaf margin smooth	go to 5
5.	(a)	Leaves hairy	*Solanum*
	(b)	Leaves not hairy	go to 6
6.	(a)	Leaves ovate	*Bougainvillea*
	(b)	Leaves lanceolate	*Mangifera*
7.	(a)	Leaves fleshy	go to 8
	(b)	Leaves not fleshy	*Hibiscus*
8.	(a)	Leaves with pointed tip	*Kalanchoe*
	(b)	Leaves with rounded tip	*Bryophylum*

(a) Use the dichotomous key to identify each of the plant specimens provided. In each case show in sequence the steps (e.g. 1a, 2b, 5b etc.) in the key that you followed to arrive at the identity of each specimen. (12 marks)

Specimen	Steps followed	Identity
P1	.....	.....
P2	.....	.....
P3	.....	.....
P4	.....	.....
P5	.....	.....
P6	.....	.....

(b) (i) Name the likely habitat of specimen P1. (1 mark)

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f i) Suggest the expected results if the juice from specimen E was boiled for 30 minutes, cooled and added drop by drop to DCPIP solution

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ii) Explain the expected results in (f) (i) above

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3. You are provided with a specimen labelled B

a) i) Name the class to which the specimen belongs

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ii) Give two reasons for your answers in (a) (i) above

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b) What term is used to describe the shape of the specimen?

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c) Stoke the specimen from the:

i) Head to tail. Record your observation

.....

ii) Tail towards the head. Record your observation

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iii) What is the significance of your observation in c(i) and (ii) above?

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d) Measure in millimeters the length of the:

i) specimen from the tip of the mouth to the tip of the tail

Length _____ cm

ii) tail from the anus to the tip of the til

Length _____ cm

iii) Using the measurements in (d) (i) and (ii)above, calculate the tail power.

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e) Name and draw the fins on the specimen that:

i) enable the specimen to balance, brake and change direction

ii) prevent the fish from rolling and yawing