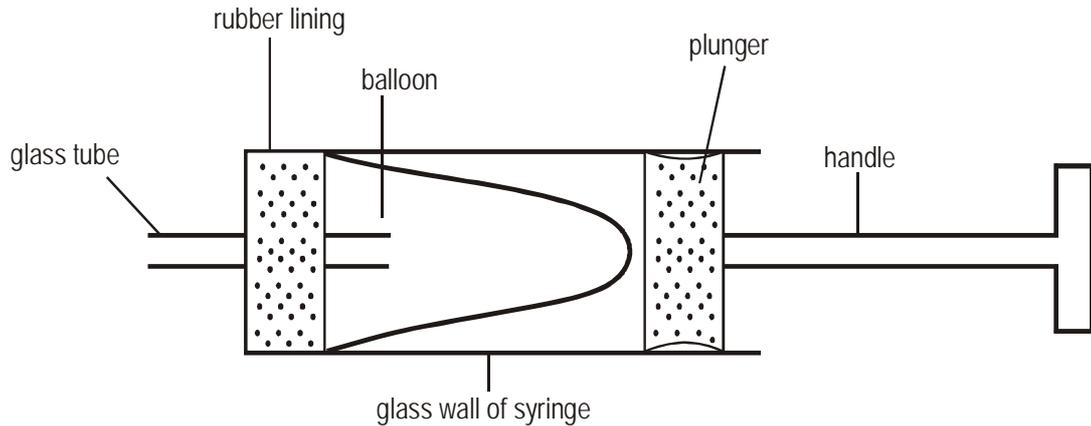


SECTION A

Answer the questions from this section in this booklet. Place this booklet inside the Answer Book in which you answer Section B and Section C.

QUESTION 1

1(a) The diagram below shows a model breathing apparatus.



(i) Which parts of the human body do the following parts of the model represent?

Glass tube _____ (1)

Balloon _____ (1)

Glass wall of syringe _____ (1)

Plunger _____ (1)

(ii) If the plunger is pulled further out of the syringe, what will happen:

To the volume of the air in the syringe (outside the balloon)?

_____ (1)

To the pressure inside the syringe (outside the balloon)?

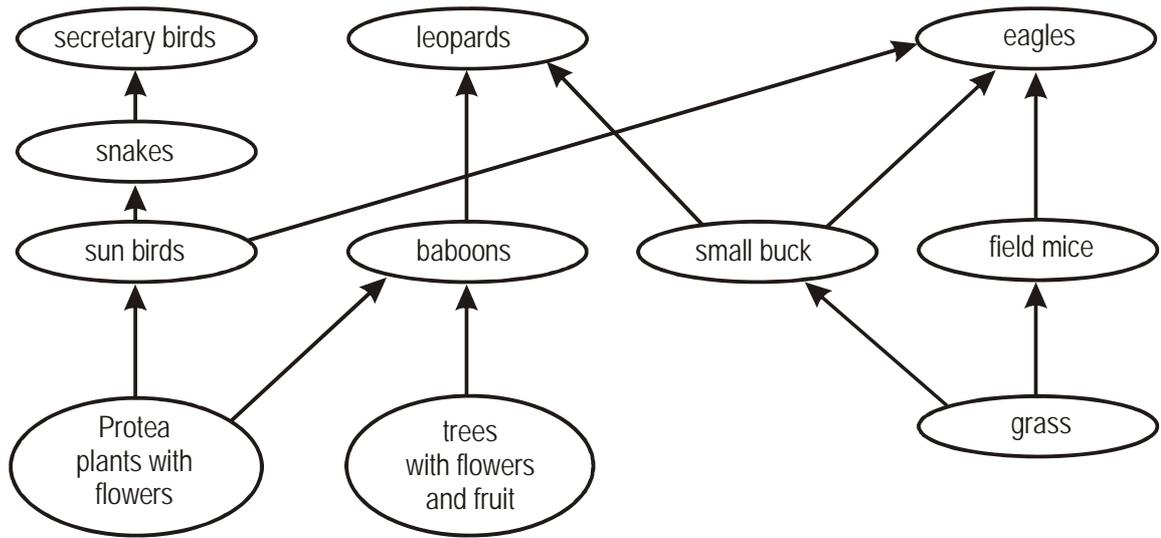
_____ (1)

(iii) Will air move into or out of the balloon if the plunger is pulled further out of the syringe?

_____ (1)

[7]

1(b) The food web below shows some feeding relationships in a mountain ecosystem in South Africa.



(i) Name two producers in this web.

(2)

(ii) How would less biodiversity in this ecosystem affect the organisms in this food web?

(2)

(iii) At which trophic level in the web would you expect to find the smallest number of organisms? Give a reason for your answer.

At level _____

Reason _____

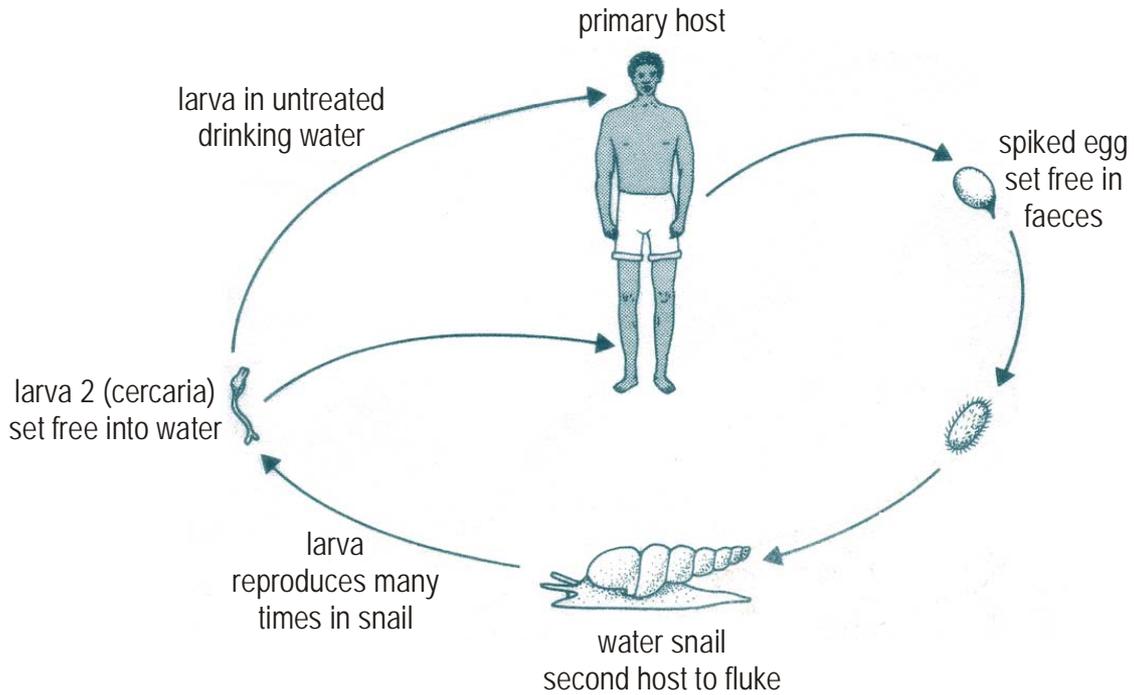
(4)

(iv) How would less biodiversity in this ecosystem affect the organisms in this food web?

(2)

1(c) A small snail living in the water-filled irrigation ditches leading from the river Nile is the

host of a blood fluke (flatworm) which causes bilharzia (schistosomiasis). The life cycle of the fluke is shown in the diagram below.



In the 1950's, a dam was built to control water flow along the Nile so that fields could be irrigated all year round.

(i) Why is the blood fluke said to be a parasite?

_____ (2)

(ii) How do the eggs of the parasite get into the river Nile?

_____ (2)

(iii) If you were the Minister of Health in Egypt, what would you do to stop the spread of this disease? Suggest three things you could do and explain briefly how each of these measures could have a negative effect on spreading of the disease. The measures you introduce should not damage the environment.

Measure 1 _____

Measure 2 _____

Measure 3

(6)

[10]

1(d) Select the letter of the structure / description in the right column which best matches the definition in the left column. Write this letter in the corresponding space provided between the brackets.

Use each letter only once.

[]	Layer around earth containing living organisms	A	Protoctista
[]	Relationship where one organism benefits, other is not harmed	B	endangered
[]	Cell organelle associated with energy release	C	Fungi
[]	Group of unicellular organisms	D	biome
[]	Group of organisms without chlorophyll	E	ATP
[]	Organism in danger of becoming extinct	F	biosphere
[]	Area with a particular climate and living organisms	G	mitochondrion
[]	Molecule which is used to transfer energy in cells	H	commensalism
[]	Nuclear division of a cell	I	endemic
[]	Organism found in one area of one country only	J	mitosis
		K	cytokinesis
		L	critical
		M	water

(20)

Total for section: [45]