Class:	Stream:
S. 2	

Name …… ……

Signature ……

S.2 BIOLOGY

April 2022

2 hours

SENIOR TWO GOMBE SEC 2022

Uganda Certificate of Education

S.2 END OF TERM ASSESSMENT

1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES:

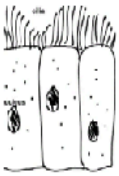
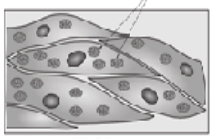
This paper consists of 8 questions.

Answer ALL questions

You may use a pencil for any diagrams or graphs.
Do not use staples, paper clips, highlighters, and glue or correction fluid.

1. a) Draw a straight arrow to match the diagram of each tissue with its function and adaptation. One arrow should be drawn to only one box

(05 marks)

FUNCTION		ADAPTATION
To fertilize the egg cell/ovum		Have a cytoplasm with nutrients for the developing embryo
To contract so as to make parts of the body move		Contain haemoglobin for carrying oxygen
To move microbes and dust particles away from surfaces of the body e.g lungs		Store glycogen which can be broken down during respiration to make energy
To open and close so as to allow entry of carbon dioxide from air		Have tiny hairs called cilia to sweep away dust and microbes from the parts
To transmit electrical impulses around the body to coordinate responses		Long and thin axon for carrying messages from long distances
To be fertilized by the sperm to form a zygote and en embryo		Have thin and elastic walls which allow it to open and close

b) Leaves are regarded as organs, rather than tissues. Explain why a leaf is described as an organ, not a tissue

(02 marks)

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c) Some of the cells above build up to form tissues, then organs and organ systems. State one organ systems in human body that is responsible for;

i) Transporting nutrients and respiratory gases around the body **(01 mark)**

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ii) Protecting the body against pathogens **(01 mark)**

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iii) Producing hormones for chemical messages **(01 mark)**

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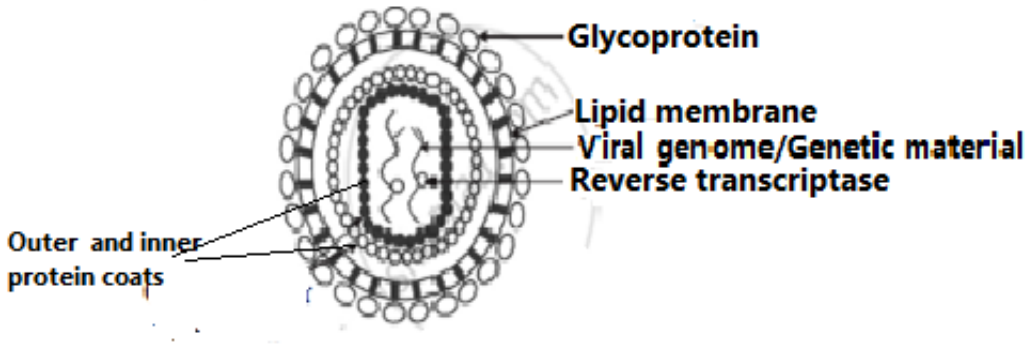
2. Viruses are responsible for several infections to living things including humans. In some ways, they are related to other living things and in other ways, they are different. Use the example in the diagram below to answer the questions that follow.



a) What is the role of the following parts as shown in the diagram above; **(02 marks)**

i) Lipid membrane …….

ii) Glycoprotein ……..

b) Mention two ways in which; **(02 marks)**

Viruses are similar to other living things	**Viruses are different from other living things**
i) ……	i) ……
……	……
…	ii) ……
ii) ……	……
……	……
…	

c) State any three viral diseases in animals that are transmitted by **insects**, and in each case, state the insect responsible for the viral disease **(03 marks)**

Viral disease	**Insect that transmits the disease**
i) …….....	…….

ii)……. ……..

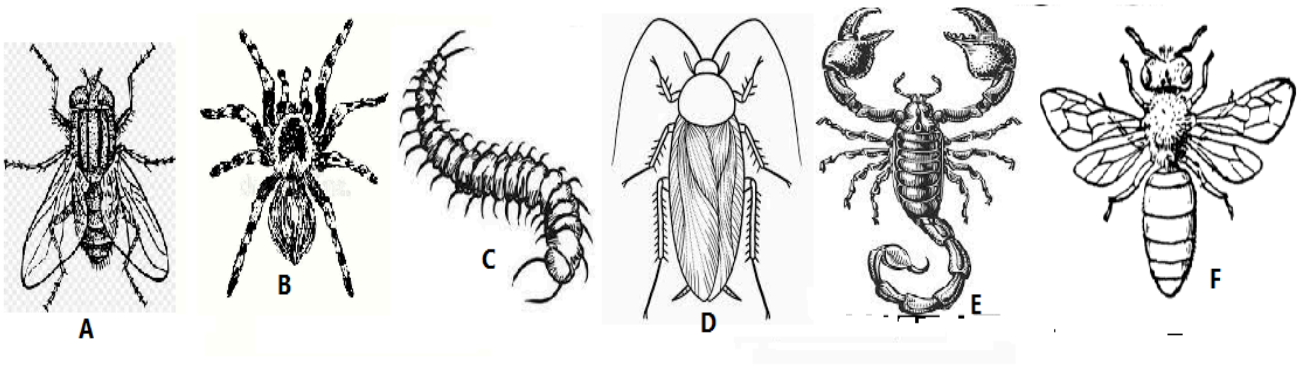
iii) …… ……..

d) Mentions two ways in which we can prevent common viral diseases **(02 marks)**

i) …….

ii) …….

3. Arthropods are very vital living things in nature. Below are some pictures of common arthropods in our environment.



a) Use the observable features on the drawings above to make an identification key for the arthropods **A-F** **(05 marks)**

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b) Animals A, D and F belong to the same group of living things. Mention three unique characteristics of the group of living things to which the living things belong **(03 marks)**

i) ……..

ii) ……..

iii) ……..

c) State any two ways in which animal A is different from animal B **(02 marks)**

i) ……

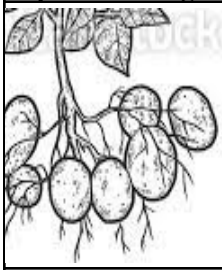
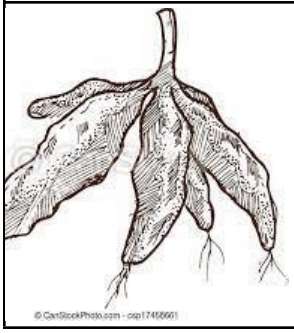
……

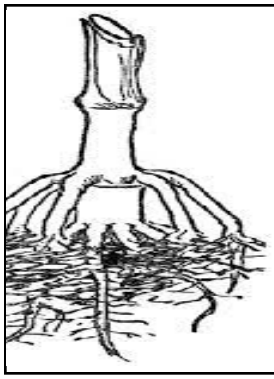
ii) ……

……

4. Some plant parts perform functions which are quite different from those of the real parts of the plant. They are said to be modified. Use the following modified plant parts to answer the questions that follow

a) Complete the table, by giving the required information **(09 marks)**

ed part drawing	**of modification**	**on**	**ation to function**
			
			

b) What is the main function of roots to plants? **(01 mark)**

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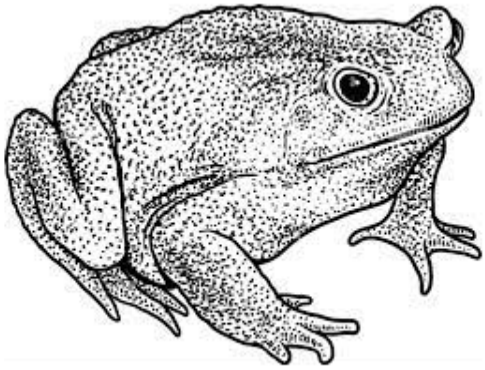
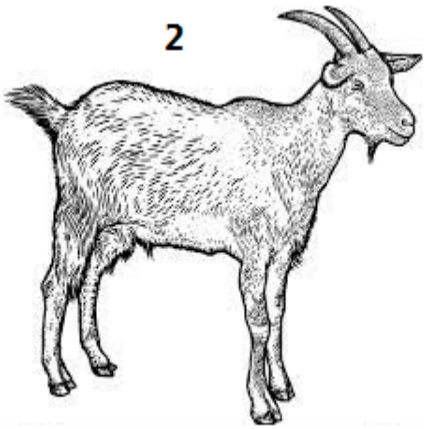
5. The living things 1 and 2 belong to the same kingdom of living things.

1



2



a) Mention three characteristics that are only present in living things to which animals 1 and 2 belong

Animal 1 **($1^1/_2$ marks)**

i. ……

ii. ……

iii. ……

Animal 2 **($1^1/_2$ marks)**

i. ……

ii. ……

iii. ……

b) List three similarities and differences between the two living things 1 and 2 **(03 mark)**

Similarities

i) ……

ii) ……

iii) ……..

Differences **(03 mark)**

Animal 1	Animal 2

c) Animal 1 cannot keep its body temperature constant. What name is given to such an animal? **(01 mark)**

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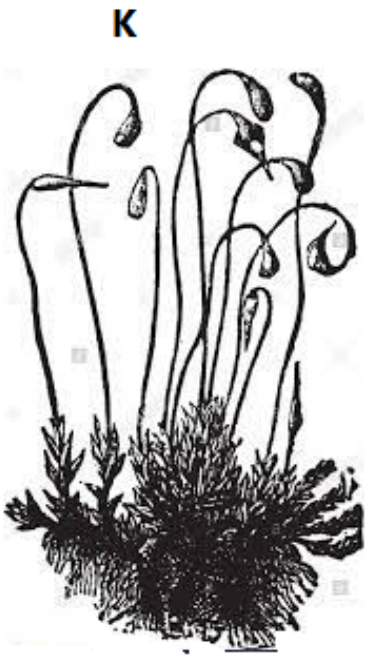
6. Plants K and L are shown belong.





a) Identify the phylum to which the plants K and L belong, and state two characteristics that each plant has so that it is classified in to the phylum you have mention **(08 mark)**

	Characteristics

n of plant K ……	i) ii) iii)
n of plant L ……	i) ii) iii)

b) State two importance of plants to animals **(02 mark)**

i) …….

ii) …….

7. Insects are sometimes useful and in other ways harmful to other living things including humans.

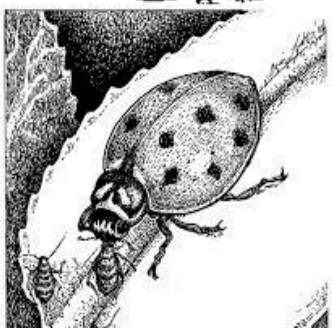
   a) Match the following pictures to the correct description of methods of controlling harmful effects of insects by drawing an arrow **(03 marks)**



Biological control: The use of another living organism to control harmful insects



chemical control: using some substances that can kill the harmful insect or inhibit its growth



Cultural conrol: Destroying the areas where the harmful insect lives

b) Some of the methods stated in (a) above can harm the environment. Which of the above methods of pest control is the most suitable one? Give a reason for your answer **(01 marks)**

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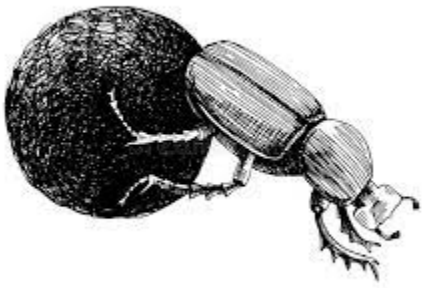
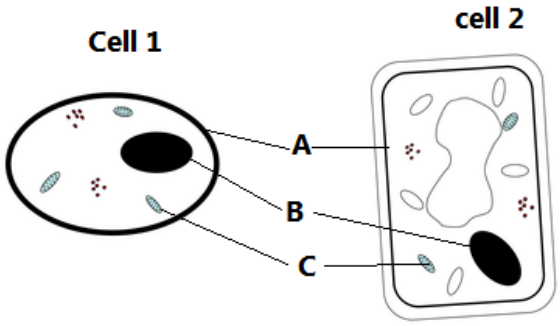
c) The table below shows some insects, which can be useful and sometimes harmful or even neutral. Mention **two** useful and **one** harmful effects of each of the insects **(06 marks)**

Insects	Useful effects (01 mark)	Harmful effects (01 marks)
	i) …… …… ii) …… ……	
	i) …… …… ii) …… ……	
	i) …… …… ii) …… ……	

8. The diagrams below are two cells.



a) Identify the cells 1 and 2 **(02 marks)**

Cell 1 …….. **Cell 2** …….

b) Identify the parts labeled A, B and C and in each case, state their functions **(03 marks)**

Part A ……. Function …….

Part B …… Function ……

Part C ……. Function ……

c) State **two** ways in which Cell 1 and cell 2 are similar and **three** ways in which they are different

Similarities

i) ……..

ii) ……..

Differences

Cell 1	**Cell 2**
i) …….....	i) ……..
ii) ……	ii) ……..
iii) ……..	iii) …….

END