

ST. CHARLES LWANGA INTERNATIONAL SCHOOL-KAKIRI

S.2 END OF YEAR EXAMINATION 2023

BIOLOGY

TIME ALLOWED: 1 HOUR 30 MINUTES

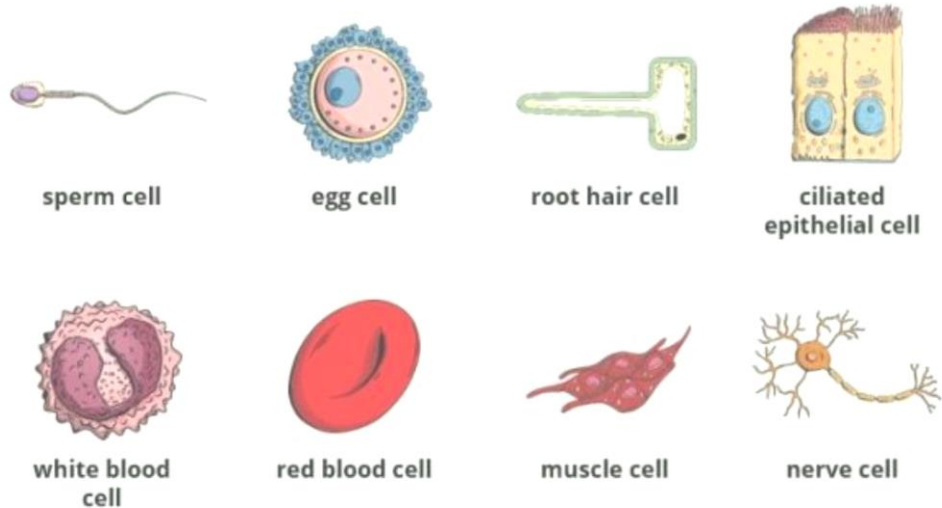
NAME..... STREAM.....

INSTRUCTIONS:

Attempt ALL questions in section A and any ONE question in section B.

SECTION A

1. (a) Cells in multicellular organisms have *unique structures* which enable them to perform a specific role/function. Below are different structures of specialised cells in man. Use them and answer the questions that follow.



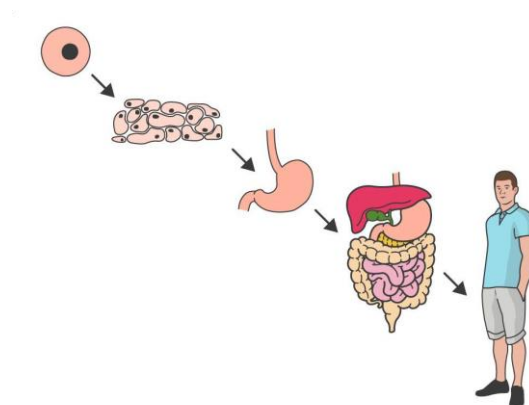
i) What is meant by a specialized cell? (01 mark)

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ii) Explain how the structures of any five of the above cells have become modified to perform their specific functions. (05 marks)

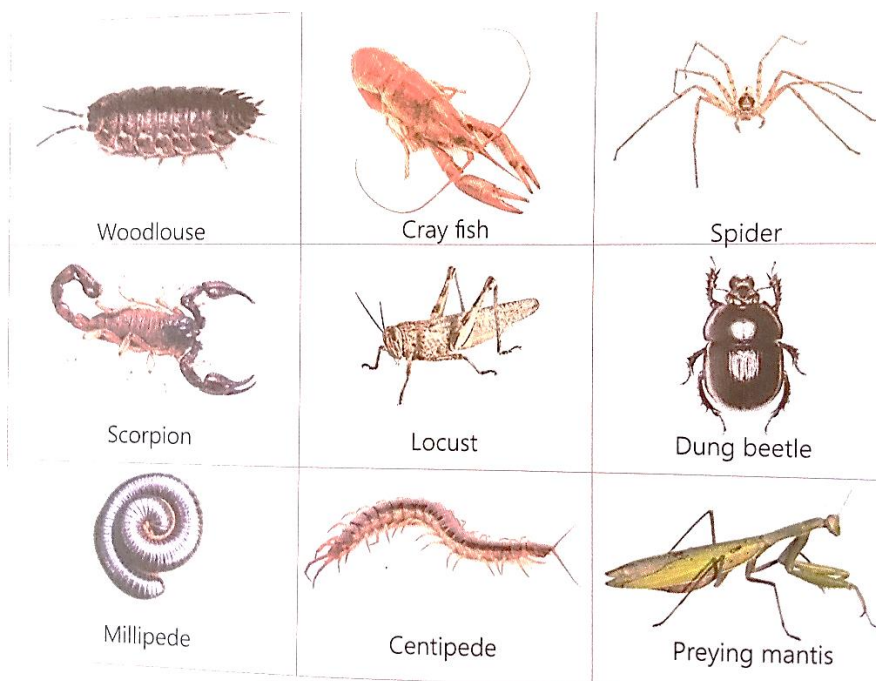
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b) The life processes of human body are maintained at several levels of structural organization. Below are different structures of organization in man. Use them and answer the questions that follow.



- (i) State the levels of structural organization in man shown above. (state them in order from smallest to highest level) (02 marks)
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- (ii) Label on each structure above the levels of structural organization stated in (a) (i) (02 marks)

2) While studying about the different organisms belonging to different kingdoms, a biology teacher displayed a chart in class showing organisms belonging to kingdom Animalia. Use the chart below to generate information to answer the questions that follow.



- a) i) As a student who understood the different phyla in kingdom Animalia, state the phylum to which the above organisms belong. Give one reason to support your answer(02 marks)

Phylum:

Reason:

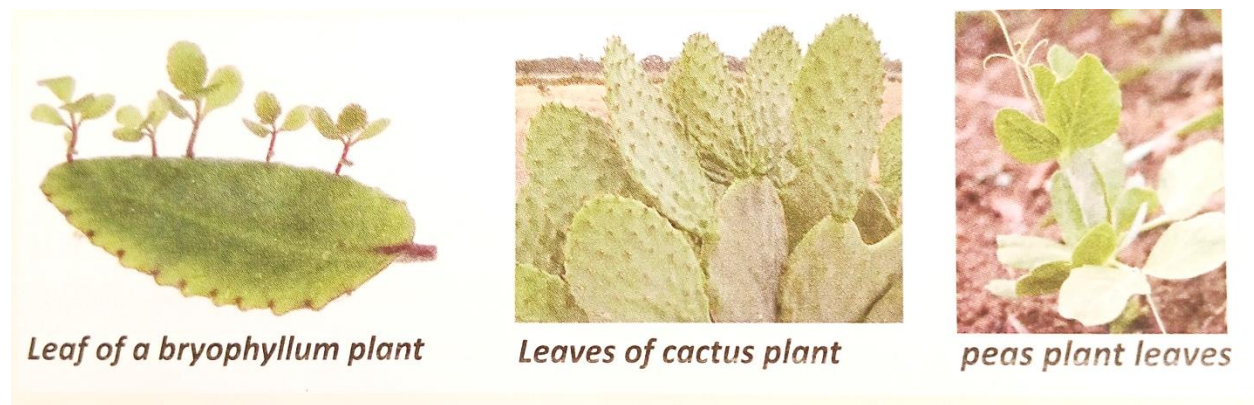
- iii) From the chart above, state the organisms that belong to the following classes (05 marks)

Class	Organisms
Arachnida	
Chilopoda	
Insecta	
Diplopoda	
Crustacea	

- b) State the economic importance of insects to man (03 marks)

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3) a) A farmer cultivated a variety of crops in his garden. After two months, he observed the leaves of some plants and he noticed that the plant leaves had some unique modifications as compared to the rest of the plants as shown below.



- i) Based on the knowledge you acquired about modified plant structures, briefly explain what you understand by modified plant leaves. (02 marks)

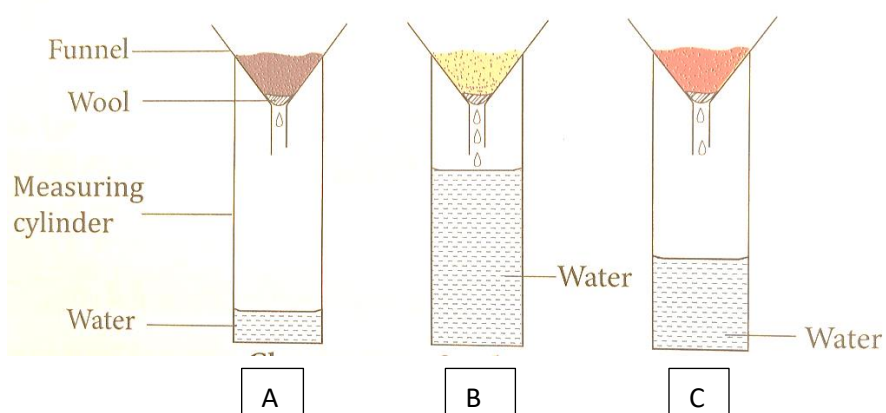
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- ii) If the farmer interviewed you to assist him understand how the above plant leaves are modified to perform their specific functions, explain to him the modifications on each of the plant leaves above that suit them to perform specific functions. (06 marks)

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- b) Most plant leaves are adapted to carrying out photosynthesis. Outline any two structural adaptations of plant leaves to carrying out photosynthesis. (02 marks)

4) a) A group of S.2 students conducted an experiment on soil involving three soil samples A, B and C to determine certain properties of the soil. They set up an experiment in the laboratory as shown below.



- i) As a student who has conducted experiments on soil to determine the various properties of the different soil samples in your school, suggest the aim of the above experiment. (01 mark)

- ii) From the results of the experiment above, state the type of each soil sample A, B and C. Give one reason to support your answer. (06 marks)

Soil sample A
Reason.....

Soil sample B.....
Reason

Soil sample C.....
Reason.....

- b) Explain the following observations

- i) Sandy soils may not be the best soil for crop cultivation (01 mark)

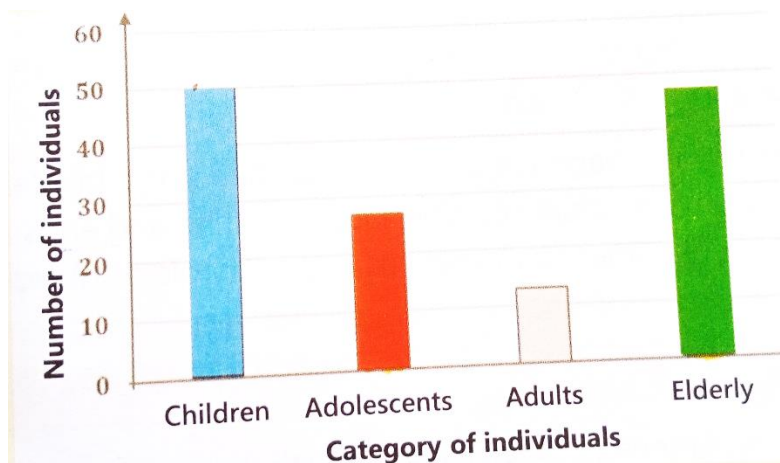
ii) Mineral nutrients that occur deep in the soil can reach plant roots (01 mark)

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c) What would be the effect of too much water in the soil (01 mark)

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5) The ministry of health assigned Adong and Mugabe to conduct a survey about tooth decay cases in a certain district. They carried out the survey successfully and obtained results which are shown in the figure below.



a) From the figure above, state the category of individuals that had;

i) the most cases of tooth decay and why? (02 marks)

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ii) the least cases of tooth decay and why? (02 marks)

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b) You have been asked to educate the above categories of people on how they can prevent their teeth from continuing to decay. Which piece of information/advice would you offer to them? (02 marks)

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c) Your brother in P.7 has asked you to help him understand the functions played by the different types of teeth in a human being. Using your knowledge of nutrition in mammals, help your brother to match the types of teeth with their respective functions shown below. (04 marks)

Type of teeth	Function
Molar	Piercing and tearing
Canine	Biting
Incisor	Cutting flesh
Carnassial	Chewing and grinding

SECTION B

6. Otim, an S.2 student ate a meal consisting of an egg, cooked cassava and ground nuts during his breakfast. After eating his breakfast, Otim went back to class for his mid-morning lessons. As a student who has acquired knowledge about how animals obtain their food, ingest it, digest it and final products of digestion absorbed; help Otim understand how the meal he ate was broken down in the body until when the final products of digestion were absorbed. (15 marks)

7. Plants in our environment have green structures that they use for carrying out photosynthesis.

- a) How would you explain to your sister in S.1 that plants are adapted for carrying out photosynthesis? (08 marks)
- b) Explain how plants and animals depend on each other in nature. (04 marks)
- c) In your opinion, what do you think are the direct and indirect ways in which people benefit from plants? (02 marks)

END

GOOD LUCK AND SUCCESS

MERRY X-MASS AND HAPPY NEW YEAR