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553/1

BIOLOGY

Theory

Paper 1

November 2024

2 hours



ASK INTEGRATED TEACHER'S EXAMINATIONS BUREAU LTD

Uganda Lower Secondary Certificate of Education

END OF YEAR ASSESSMENT 2024

BIOLOGY PAPER 1

SENIOR ONE

(Theory)

2 Hours

INSTRUCTIONS TO CANDIDATES:

This paper consists of seven examination items.

It has two sections; A and B.

Section A has three compulsory items.

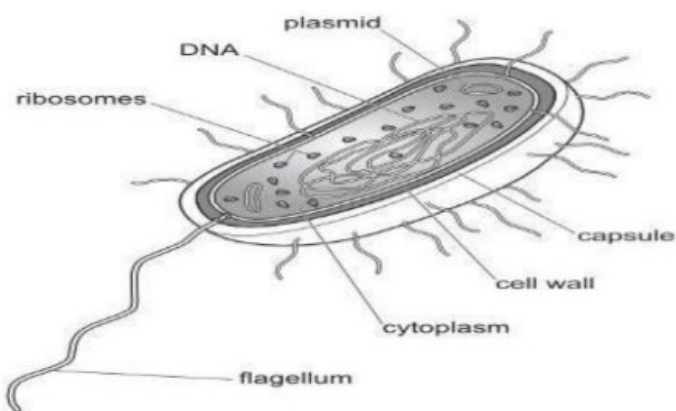
Answer one item from Section B.

Answer four items in all.

Any additional item(s) answered will not be scored

ITEM 1

Bacteria are microscopic organisms which are very diverse and almost found everywhere. Some are important in food industry, improving soil fertility, enzyme production, cleans the environment etc. However, a vast of bacteria cause diseases to animals and man. The diagram is of *Vibrio cholera*, the bacterium that cause cholera and the vector that spreads it.



- a) State two similarities and two differences between a palisade mesophyll Cell and the bacterium cell. (03 scores)

- b) State the kingdom to which the bacteria cell above belongs to and explain why the cell is placed above in that kingdom. (02 scores)

Kingdom

Reasons

- c) The city cleanliness unit has started up a sensitization campaign about the role of the vector above in transmission of the pathogen. However they need some scientific knowledge about the role of the vector in transmission of the pathogen .explain the features of the vector enable it to transmit the pathogen. (03 scores)

- d) What recommendations would you make to the city campaign to control the harmful stages of the above vector community? (03 scores)

Item 2

Cassava plant, *Manihot esculenta* produces root tuber which is the major source of fibre and carbohydrates in many families in Uganda due to the less requirements it requires to grow, its high productivity and tolerance to dry conditions. During a research study in some village, it was noted that the major cause of low cassava productivity is infection with a viral disease.



- a. State the
- i. Kingdom _____
 - ii. Class _____
 - iii. Genus _____
 - iv. Species of the cassava plant _____

(03marks)

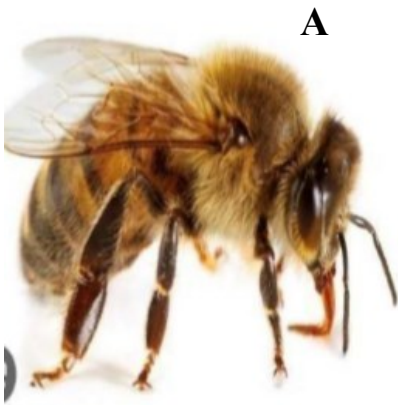
- b. Explain to the community how the cassava mosaic virus is spread, signs and symptoms and advise them on how they can prevent the harmful effects of the virus.

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

(8 scores)

Item 3

Insects are diverse and play several vital roles in the life of other organisms. They share several structural features on their bodies some of which have made them to be the most successful organisms on Planet Earth.



(a) State three similarities between the above three insects.

(03 scores)

(b) Explain the roles insects play in lives of other organisms.

(c) Using observable features on the insects above construct a dichotomous key to identify the above insects.

(04 scores)

SECTION B

Attempt any one question from this part

ITEM 4

Malaria is one of the leading killer diseases in Africa. One time the government was planning to buy a chemical branded **DDT** and spray the whole of Uganda using helicopters. The environmental activists argued against the proposal in fear of the effects the **DDT** would have on other useful insects.

TASK

Assuming you are one of the environmental officers, write a report you would present to the government to drop its plan

ITEM 5

The Senior ones of Kisubi seminary made a trip to Uganda wild life education Centre and saw a variety of fauna. They decided to take some images so that they could present them to their teachers in the report. However they failed to identify the animals because the tour guides had limited knowledge of zoology and animal taxonomy and they had no identification guides.

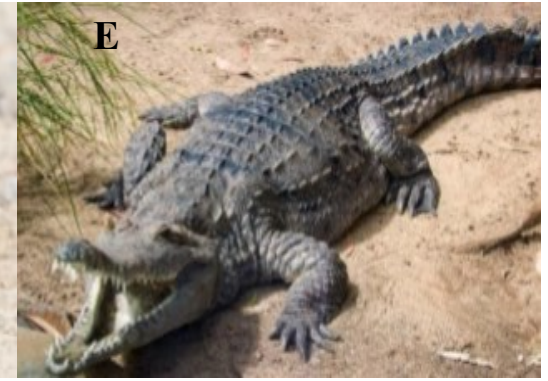
Below are the images of the animals that were taken from the zoo that the students have to include in their guide

A



B





Task

As a student who has studied about the use of dichotomous keys, Design an identification guide (dichotomous key) that would help the students identify the animals using observable characteristics.

END



Total
scores

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AITEL END OF YEAR ASSESSMENTS

Uganda Certificate of Education

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Subject..... Paper Code...../.....

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FOR SCORERS USE ONLY

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