

NAME.....

REGINA PACIS HIGH SCHOOL – MUKONO
Uganda Certificate of Education
S.1 BIOLOGY
1 hours

INSTRUCTIONS TO CANDIDATES:

- *Attempt all items*
- *Answers should be written in the spaces provided.*
- *Use a sharp pencil for all the drawings. No shading or colouring is allowed.*

Item 1

In a community, farmers have been cultivating coffee on a large scale but their yields have been declining. They were advised to change their practices so that they can solve the problem.

Unlike other farmers, John adopted the advice by establishing a garden of flowers near his coffee plantation to attract arthropods. He also used old cardboards to reduce water loss from the soil. Overtime, John's coffee yields improved.

Meanwhile, other coffee farmers in the neighboring village wondered why their yields continued to decline:

To explain this situation, **cockroaches** and **worker bees** were collected from John's coffee farm and used to illustrate the difference in the coffee yields.

Task:

- (a) (i) With reason(s), identify the smallest taxonomic group (**class**) to which both cockroach and worker bees belong.

Taxonomic group:

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Reason(s)

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(ii) Describe how the structures on one of the organisms enabled it to increase the coffee yields in John's garden.

[illegible]

(b) Using a drawing of cockroach, show the structures that enabled it to spread easily in John's coffee plantation.

(c) Suggest the economic importance of the organism that enabled John's coffee plantation to get better yields.

[illegible]

Item 2

In Nakanpiginya village, a healthy center reported that several people had developed a disease characterized by fever, dry cough, difficulty in breathing, tiredness, and loss of taste and smell.

The healthy workers advised the community to follow preventive measures to reduce the spread of the infection citing that it is whooping cough caused by ***Bordetella pertussis***. The community was again hit by COVID-19. The healthy workers suggested that the community should use the same measures as those employed in 2020 during the pandemic outbreak.

Task;

a) State the ***name*** of the organism responsible for the infection, and with ***reasons***, the ***Kingdom*** to which the organism belongs.

Name of the organism;

Kingdom;

Reasons;.....

b) Suggest the different ways of how COVID-19 can spread from one individual to another.

[illegible]

c) How can the village protect its self from the above mentioned infections?

[illegible]