

NAME.....

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BIOLOGY

PAPER 1

NOVEMBER.2023

2 HOURS



SHAPTA JOINT ASSESSMENT BOARD

Uganda Certificate of Lower Secondary Education

BIOLOGY

PAPER 1

SENIOR TWO

TIME: 2HRS

INSTRUCTIONS TO LEARNERS:

- Respond to **all** items in paper.
- Answers to all items must be written in the spaces provided.

In the district athletics competitions held at your school playground, it was observed that the athletes took glucoses especially after heavy races. It was also evidenced that the athletes sweated while running and their shirts had unpleasant smell at the end of the day. In addition the athletes breathed at a higher rate after every race. Brenda a senior one learner picked much interest in understanding the scientific idea behind the observations above, however due to limited knowledge she could not fully understand the idea.



SHAPTA (10 scores)

	Antenna	Mouth parts	Wings	Legs
A	Long	Mandibles	None	Short
B	Long	Proboscis	Has 2	Short
C	Short	Proboscis	None	Long
D	Short	Proboscis	Has 4	Long
E	Short	Proboscis	Has 4	Short

(08 Scores)



A group of learners were watching a video of various animals. As a result, an argument started among them regarding the classification of some animals. One of such animals laid a large shelled egg and had scales on its body with a prominent tail. Some learners insisted that it was a reptile while others insisted that it was a mammal.



SHAPTA

ITEM 4

In an experiment to determine how a certain factor affect the rate of enzyme controlled reaction, the following steps were taken;

- 1) A Bunsen burner, heatproof mat, tripod and gauze were set up.
- 2) A beaker of water was placed on the gauze and the flame was adjusted to keep the water at about 35°C.
- 3) Three test tubes were obtained and labelled D, E, and F.
- 4) Two drops of iodine solution were put into each of the three test tubes.
- 5) 2 cm³ of amylase enzyme solution was added to each test tube.
- 6) 2 cm³ of starch solution were also added to each of the test tube.
- 7) 1cm³ of dilute hydrochloric Acid, dilute sodium hydroxide, and distilled water were added to test tubes D, E, and F respectively.
- 8) The three test tubes were put into the beaker of water maintained at 35⁰c and the stop clock started immediately.
- 9) The time in seconds taken for the dark blue colour to disappear from the content of each test tube was recorded in the table below. Study the results and use them to answer the questions that follow.

Test tube	Time(s)
D	120
E	580
F	43

- a) What was being investigated in this experiment? (01 score)
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- b) Why was the temperature of the experiment maintained at 35⁰c? (02 score)
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- c) Briefly explain the results of the experiment. (04 scores)
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d) What conclusion can you draw from the results of the above experiment?
(02 score)

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e) Identify one site in the human digestive system with a similar reaction like the one that occurred in the test tubes above. (02 score)

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f) Apart from the factor investigated in this experiment, state three other factors that affect the rate of enzyme controlled reaction (04 scores)

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END