NAME:……SIGN……

553/2

BIOLOGY

THEORY

Paper 1

2 hours

Uganda Lower Secondary Certificate of Education

END OF YEAR EXAMINATION 2023

SENIOR THREE

BIOLOGY

Paper one

TIME: 2 HOURS

INSTRUCTIONS

- This paper consists of two questions.
- Attempt all questions in this paper.
- Present your answers precisely in the spaces provided.
- No extra answer shall be provided for rough work.

FOR EXAMINER'S USE ONLY

	Question 1			Question 2		
	a)	b)		a)	b)	
		RELEVANCY			RELEVANCY	
		ACCURACY			ACCURACY	
		COHERENCY			COHERENCY	
		EXCELLENCE			EXCELLENCE	
TOTAL						

Question 1.

a) A potometer was used to measure water uptake by a leafy shoot and the results are shown in ***table 1***.

(i) Calculate the rate of water movement in mm/min for each of the conditions, **A** to **E**, and present your answers in ***table 3***. **(03marks)**

(ii) Draw a bar chart to show the effect of the five conditions on the rate of water movement. **(05marks)**

(iii) From the results, state three environmental conditions that affect the rate of water movement through the plant. **(03marks)**

(iv) State two ways in which the around the shoot would be affected if it was covered with a transparent plastic bag. **(02marks)**

	Condition	Time taken for the water to move 100mm/min
A	Cool, humid air in daylight	2
B	Cool, dry air in daylight	6
C	Warm, dry air in daylight	1
D	Warm, humid air in daylight	3
E	Warm, humid air at night	60

Table 1

b) A small artificial forest with very little under covering vegetation captured fire that heat the barks of trees in the forest as shown in ***fig.1***. In a period of 30 days, the 90% of the trees had dried and died.



Fig.1.

The owner of the forest wants to understand what caused the death of his trees since rain had continued to rained in the preceding weeks after the fire.

a) You have been approached by the forest owner, write a report to explain what caused the death of his trees.

b) By stating the effects of forest fires, explain to the community members in which the forest owner resides about the ways of eradicating such effects.

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Question 2.

a) A sperm cell is a specialized so that it can find and fertilize an egg cell. **Fig.2.** shows the structure of a mature sperm cell with some of its parts labelled.



Fig.2.

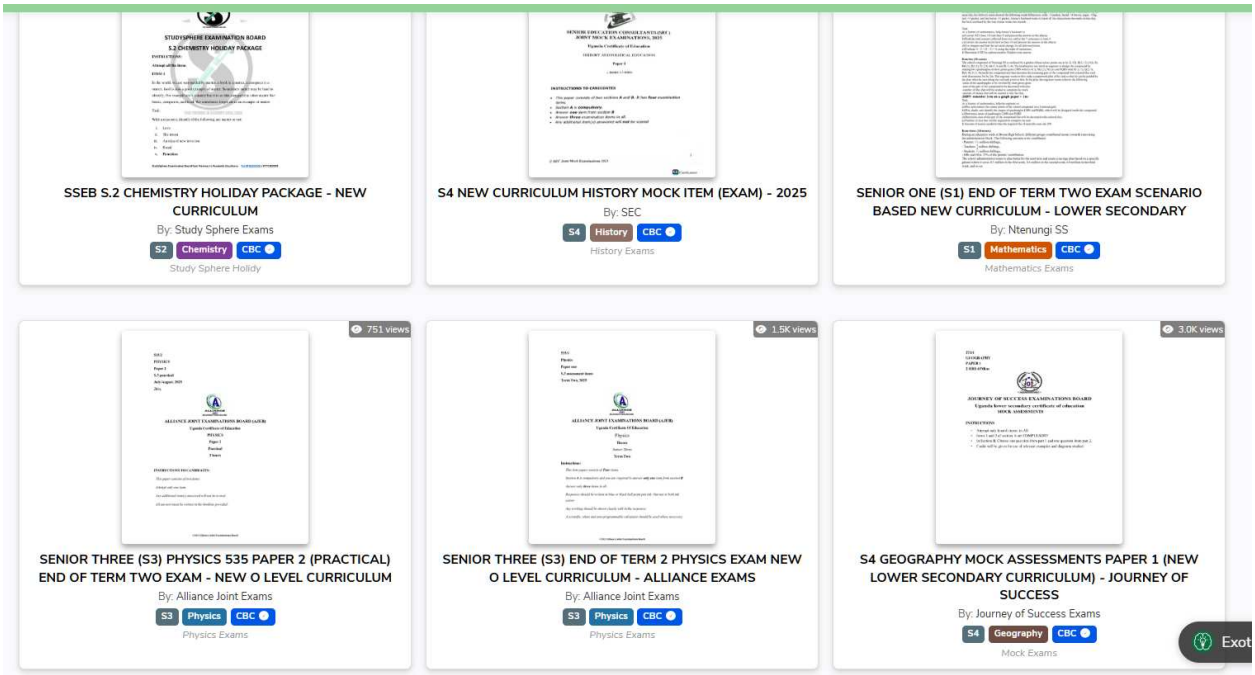
(i) Explain how the sperm cell is different from other animal cells. **(03marks)**
(ii) State how the sperm cell suitable to be the male gamete of animals. **(03marks)**
(iii) Mention the causes of female infertilities in the Ugandan population. **(04marks)**

b) At puberty, there are very many changes that take place in the body of adolescents. Joan is a P.6 pupil who started seeing blood from her genitals. She feels uncomfortable and thus dodges school whenever she starts this process. As a student of S.3, write a letter to Joan to inform her about what she is going through and help her know other body changes that she is most likely to experience besides discharge of blood. In your letter, advice Joan on how she should keep herself so that she continues schooling without cases of school dropout as a result of early pregnancy.

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