MASENO SCHOOL MOCK – 2022

Kenya Certificate of Secondary Education

231/3 **Paper 3**

BIOLOGY

(Practical)

Sept. 2022 – 1¾ Hours

Name …… Admission Number …….

Class …… Date ……Candidate's Signature……...

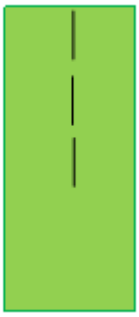
Instructions to candidates

a) Write your name and admission number in the spaces provided above.
b) Write your class, the date of examination and sign in the spaces provided above.
c) Answer **all** questions in the spaces provided.
d) You are required to spend the first 15 minutes of the 1 ¾ hours allowed for this paper reading the whole paper carefully before commencing your work.
e) Additional pages must not be inserted.
f) Candidates may be penalized for recording irrelevant information and for incorrect spelling especially of technical terms.
g) **This paper consists of 6 printed pages.**
h) **Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**
i) **Candidates should answer the questions in English.**

FOR EXAMINER'S USE ONLY

Question	Maximum Score	Candidates's Score
1	14	
2	12	
3	14	
Total Score	40	

1. You are provided with two pieces of plant material labeled **T**. Using a surgical blade, cut a slit a half way through the middle piece as shown below.



Place one piece in liquid labeled **R** and the other in liquid labeled **S**. Allow the set up to stand for 30 minutes.

a) State the observation made in the piece placed in;

i) Liquid **R** (1 mark)

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ii) Liquid **S** (1 mark)

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b) Account for the observations stated in (a) above

i) Piece place in liquid **R** (3 marks)

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ii) Piece placed in liquid **S** (3 marks)

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c) Describe the nature of liquid **R** and **S** in relation to the cell sap of pieces used in the experiment

i) **R** (1 mark)

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……

ii) **S** (1 mark)

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……..……..

d) Name the chemical substances present in the cell structure responsible for the above physiological process (2 marks)

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e) Describe how the cell structure works to bring about the observations made in (a) above. (2 marks)

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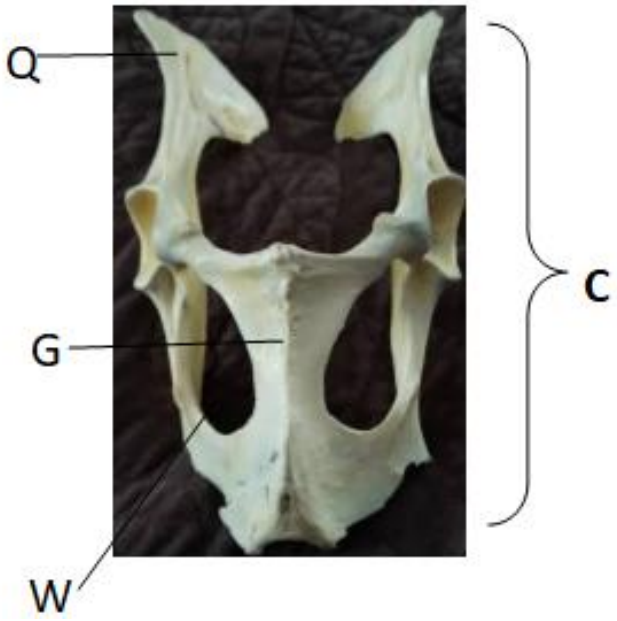
2. The photograph below represents part of human skeleton



a) Name three bones that fuse to form the part labeled **C** (3 marks)

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b) Explain the significance of part **G** (3 marks)

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c) State the function of part **Q** (1 mark)

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d) Name three structures that pass through the part labeled **W** (3 marks)

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e) i) Name the type of joint found between the bones named in (a) (1 mark)

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(ii) Explain the significance of joint identified in e (i) above (1 mark)

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3. You are provided with solution **Q**.

a) Place two drops of solution **Q** on a white tile and two drops of iodine solution onto it. Make your observation and tabulate your results in the table below. (3 marks)

Food substance	Observation	Conclusion

b) Measure about 2.0ml of solution **Q** and transfer into a clean test tube, add equal amount of Benedicts solution and heat the mixture to boil in a water bath maintained at 37^0C. Tabulate your results in the table below. (3 marks)

Food substance	Observation	Conclusion

c) Label two test tubes B1 and B2. Add 2ml of liquid **Q** followed by 2ml of liquid **T**. to the content of B1, add 2ml of HCl and to content of B2, add 2ml of $NaHCO_3$ solution. Place the two test tubes in a water bath maintained at 37^0C for 20 minutes. Remove the test tubes from the water bath and allow to cool.

To the content of each test tube, add 2ml of Benedicts solution and heat to boil in the water bath. Tabulate your results in the table below (4 marks)

Test tube	Observation	Conclusion
B1		
B2		

d) i) Name the likely identity of liquid **T** (1 mark)

……..……

……..……

ii) Explain your answer in d (i) above (1 mark)

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e) Name two secretions that create an optimum conditions for **T** along the alimentary canal.

(2 marks)

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