

MASENO SCHOOL

Kenya Certificate of Secondary Education 2021

BIOLOGY – Paper 3

DEC. 2021 - 2 hours

THE MASENO SCHOOL MOCK

(PRACTICAL)

2021 – 1 ¾ hours

Name Adm Number..... Class:

Instructions to Candidates

- (a) Write your name and admission number in the spaces provided above.
- (b) Sign and write the date of examination in the spaces provided above.
- (c) Answer **all** the 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.

For Examiner's Use Only

Question	Maximum score	Candidate's score
1	14	
2	13	
3	13	
Total Score	40	

1. You are provided with 10% glucose solution and substance **labeled Y**. Also provided is a solution labeled **X**. You are to investigate the reaction between the glucose solution and **substance Y**. Measure 20.00cm³ of the glucose solution and transfer it to the boiling tube provided. Transfer all the **substance Y** provided into the solution in the boiling tube. Tightly fit the rubber bung carrying a delivery tube to the boiling tube. Place the boiling tube in a water bath kept between 35 – 40⁰ c. Measure about 1.0. cm³ of **solution X** and transfer to a test tube. Connect the delivery tube so that the open end enters the **solution X**. Allow the set – up to stand for about 30 minutes and during this time observe the changes occurring in the boiling tube and in the test tube having **solution X**.

a) Fill the table below (2 marks)

Tube	Observations
Boiling Tube	
Test Tube	

b) What conclusions can your draw from your observations in the test tube? (2 marks)

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c) Name the process that took place in the test tube (1 mark)

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d) Shake the contents of the boiling tube and using a dropper remove a little of the contents. Transfer a drop to a glass slide; add two drops of methylene blue stain. Cover with a cover slip and observe using a microscope of x10 or x15 eye piece lens.

(i) Draw and label the **substance Y** which is in the slide (2 marks)

ii) What is the possible identity of **substance Y** (1 mark)

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e) Why was the temperature of the water bath kept between 35 – 38⁰c (1 mark)

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f) If the experiment was done under the following conditions, suggest, giving reasons the expected results.

(i) Water bath was kept at 100⁰c

Observations (1mark)	Reasons (1mark)

g) From the microscope

(i) Name the part **labeled A.** (1 mark)

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(ii) Give the function of part **labeled B.** (1 mark)

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h) Name the form in which **substance Y** stores its excess glucose (1 mark)

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2. You are provided with **specimen K** and **specimen L**, use them to answer the questions that follows.

a) State with reasons the sub divisions to which the specimens belong.

	Sub division (2 mark)	Reason (2 mark)
K	 	
L	 	

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b) State two reasons that proves specimen **L** is more advanced compared to specimen **K**. in plant Kingdom (2 marks)

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c) Name the likely habitat of specimen **K** and give an adaptation that suit **K** to its habitat (2 marks)

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d) Describe the leaf of specimen **L** (3 marks)

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e) Study the stem of specimen **L**.

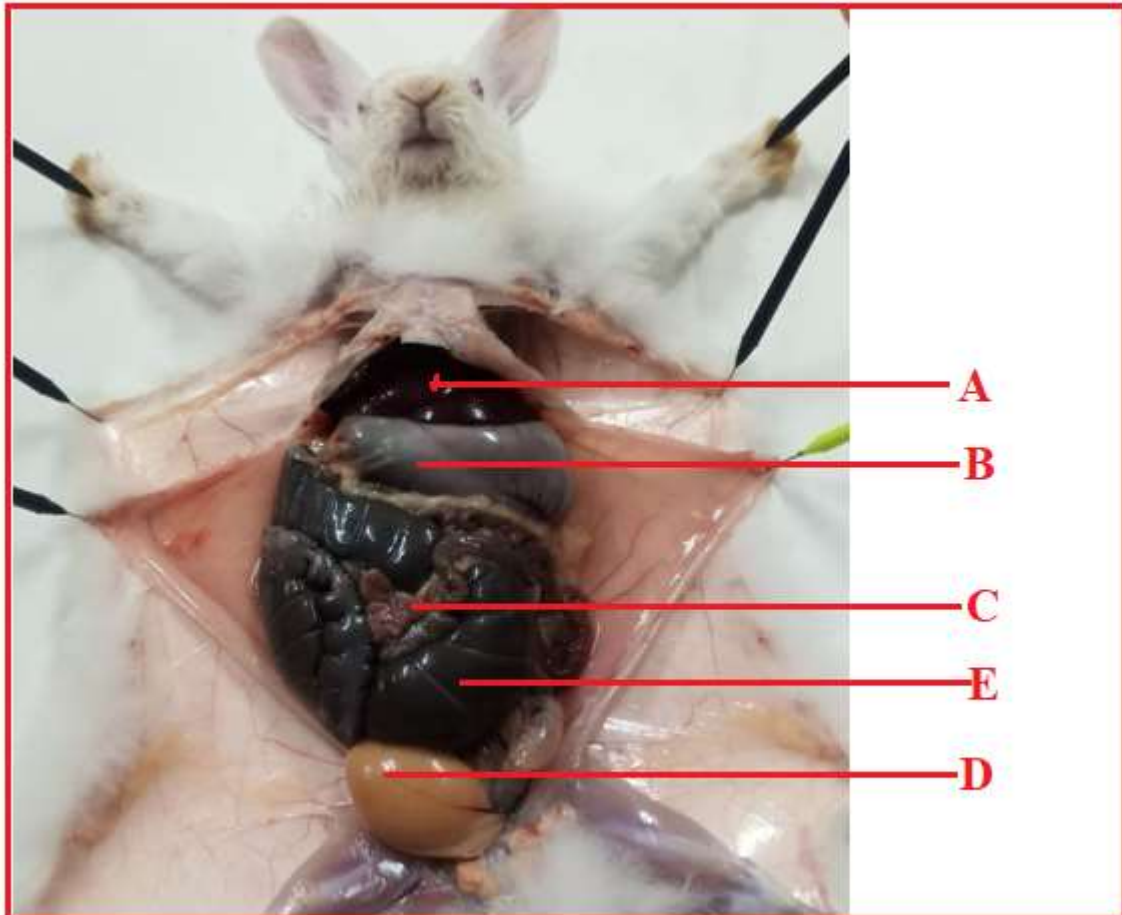
i) State the structural modification observed (1mark)

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ii) What is the importance of this modification? (1mark)

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3. You are provided with the following illustration, use it to answer the questions that follow.



a) Name the parts labeled C and E (2marks)

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b) Classify the organism into Phylum (1mark)

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c) With reason identify the Class of the organism

(2marks)

Class	Reason

d) State the digestive function of the part labeled B

(2 marks)

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e) State two adaptation of the part labeled C

(4 marks)

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f) State two homeostatis function of structure labeled A

(2marks)

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