553/3

Biology practical

Paper 3

July - August 2023

UGANDA MUSLIM TEACHERS' ASSOCIATION

UMTA JOINT MOCK EXAMINATIONS – 2023

NAME.....

INDEX NO.....SIGNATURE.....

UGANDA CERTIFICATE OF EDUCATION
BIOLOGY PRACTICAL
PAPER 3
2 HOURS

Instructions to Candidates

- *Answer all questions.*
- *Answers must be written in the spaces provided. Work on additional sheets will not be marked.*
- *Use sharp pencils for your drawings.*
- *Coloured pencils or crayons must not be used.*
- *Additional pages must not be inserted.*

FOR EXAMINERS' USE ONLY

Question	Marks	Initials
1		
2		
3		
Total Marks		

Turn over

1. You are provided with solutions **P** and **Q**.

(a). Using the reagents provided, carry out tests on **P** and **Q** and record your observations and deductions in the table 1 below. (10 marks)

Table 1.

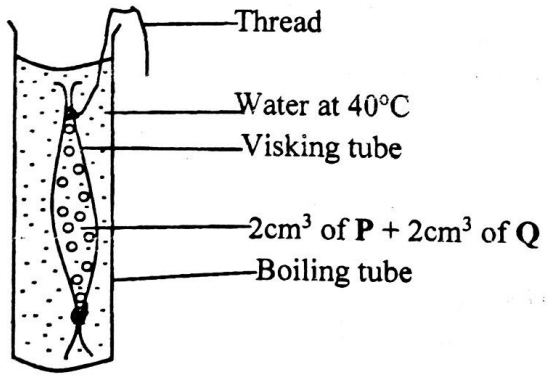
Tests	Observations	Deductions
(i) To 1cm^3 of solution **P** add 2 drops of Iodine solution		
(ii) Repeat test (i) using solution **Q**		
(iii) To 1cm^3 of solution **P** add 1cm3 of Benedict's solution and boil		
(iv) Repeat test (iii) using solution **Q**		

(b) Tie one end of the visking tube provided using a thread to secure it tightly.

Mix 2 cm^3 of solution **P** with 2cm^3 of solution **Q** in a test tube and put the mixture in the visking tube then tie the other end.

Prepare a boiling tube containing 10cm^3 of water at 40°C.

Place the visking tube into the boiling tube as shown in the figure below. Leave the set up to stand for 30 minutes.



After 30 minutes remove the visking tube and carry out the following tests on the water in the boiling tube. Record your observations and deductions in the table below.

Table 2

Test	Observations	Deductions
Iodine Test		
Benedict's Test		

(i) What process was being investigated? (01 marks)

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(ii) Explain your results in table 2 (04 marks)

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(iii) Why was water used in the boiling tube maintained at 40°C? (01 mark)

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Turn over

2. You are provided with specimens **R**, **S** and **T** which are similar plant organs.

(a) (i) Which plant organs are they? (01 mark)

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(ii) Give two reasons for your answer (02 marks)

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(b) (i) Hold specimen **R** and drop it on your cloth. Record your observations. (01 mark)

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(ii) What is the significance of your observations in (i) above? (02 marks)

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(c) Cut a cross section of specimen **T** and open specimen **R.** Describe the differences in pericarps of specimens **T** and **R** (03 marks)

Specimen T	**Specimen R**

(d) How are specimens **T** and **S** dispersed? (06 marks)

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(e) Draw and label the transverse section of endocarp and structures inside it of specimen **T** (05 marks)

Turn over

3. You are provided with specimens

(a) Identify specimens **G** and **H** (02 marks)

(i) Specimen **G**

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(ii) Specimen **H**

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(b) State the functions of specimens **G** and **H**.

(i) Three functions of specimen **G** (03 marks)

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(ii) One function of specimen **H** (01 mark)

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(c) Stroke specimen **G** between your fingers from the tip to the base and then from the base to the tip. Record your observations. (02 marks)

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(d) How are specimens G and **H** adapted to their functions? (05 marks)

Three adaptations of Specimen **G**

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Two adaptations of Specimen **H**

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(e) Draw and label specimen **G** (07 marks)

END