NAME	ADM
DATE	SIGN

231/3 BIOLOGY PRACTICAL PAPER 3 June 2022

Time: 1 ¾ Hours

KASSU JET EXAMINATION 2022

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES

- Answer all the questions in the spaces provided.
- You are required to spend the first 15 minutes of 134 hours allowed for this paper reading the whole paper carefully before commencing your work.
- Candidates may be penalized for recording irrelevant information and for incorrect spelling especially of technical terms.

FOR EXAMINER'S USE ONLY

Question	Max Score	Candidate's Score
KO 1		
2		
3		
TOTAL		

This paper consists of printed pages. Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing.

i) Using the remaining portion of specimen Q . Cut 2 other pieces measuring 10 1cm, Crush them separately to form a paste and put them in boiling tubes lal and B . To the paste in boiling tube labeled A , add 5mls of solution X . Record the observation in the table below. To the paste in boiling tube labeled B add 10mls of distilled water and boil 5 minutes then allow it cool then add 5mls of solution X . Record the observ	-	10mls of solution X . Rec	cord the observations in the table below? (2 man
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ii) Account for the observations in the experiment involving specimen Q and R (3 ma) i) Using the remaining portion of specimen Q . Cut 2 other pieces measuring 1 cm, Crush them separately to form a paste and put them in boiling tubes lal and B. To the paste in boiling tube labeled A, add 5mls of solution X. Record the observation in the table below. To the paste in boiling tube labeled B add 10mls of distilled water and boil 5 minutes then allow it cool then add 5mls of solution X. Record the observe in the table below? (2 ma) BOILING TUBE OBSERVATION		Specimen Q	
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ii) Account for the observations in the experiment involving boiling tu	be A and B ? (4 marks)
Boiling tube A	
Boiling tube B	
iii) Name the biological substance being investigated and its significan	
tissue?	(2 marks)
Biological substance	
iii) Name the biological substance being investigated and its significant tissue? Biological substance Significance iv) Name the factor being investigated in question 2(b) above	
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iv) Name the factor being investigated in question 2(b) above	(1mark)
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KASSU JET EXAMINATION 2022 MARKING SCHEME

1. a. (i) You are provided with a pestle, mortar, scapel **specimen Q** and **R**,. Cut from each a cube, each measuring 1cm by 1cm. put them each in a different test tube having 10mls of solution **X**. Record the observations in the table below? **(2marks)**

Specimen	Observation
Specimen Q	A lot of bubbling / Effervescence / Fizzling
Specimen R	Little bubbling / less effervescence little fizzling

(ii) Account for the observations in the experiment involving specimen Q and R? (3marks)

There is more bubbling / more gas produced in Q (liver) than in R banana; since there is more metabolic activities in Q than in R; Animals are more active than plants;

b) i) Using the remaining portion of **specimen Q**. Cut 2 other pieces measuring 1cm by 1cm, Crush them separately to form a paste and put them in boiling tubes labeled **A** and **B**.

To the paste in boiling tube labeled A, add 5mls of solution X. Record the observation in the table below.

To the paste in boiling tube labeled **B** add 10mls of distilled water and boil for 5minutes then allow it cool then add 5mls of solution **X**. Record the observation in the table below? (2marks)

BOILING TUBE	Observation
A	fast/rapid/More effervescence/fizzing /bubbling
В	Fewer/no/very little effervescence/fizzing /bubbling

(ii) Account for the observations in the experiment involving boiling tube **A** and **B**? (4marks)

Boiling tube **A**

Crushing increases surface area for enzyme catalase; rapid / faster metabolism / breakdown of hydrogen peroxide occurs

Boiling tube **B**

Boiling denatures the cells / enzyme catalase; reduces enzyme activity / metabolism / substrate breakdown.

(iii) Name the biological substance being investigated and its significance to the living tissue? (2marks)

Biological substance Catalase/enzyme

Significance

Detoxification/breakdown harmful substance/hydrogen peroxide

iv) Name the factor being investigated in question 2(b) above (1mark) Effect of temperature on enzyme action

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