KCSE TRIAL 2020

BIOLOGY PAPER 3

- 1. You are provided with the following:
 - Solution A
 - Benedict's solution labelled as solution B
 - Solution C
 - 0.1% NaCl solution
 - 1.4% NaCl solution
 - Iodine solution labeled as solution D
 - Label the test tubes as P, Q and R; in each test tube place 3mls of solution C into each test tube:
 - a) Carry out iodine test on portion of the solution from test tubes P, Q and R and record the observation in the table below. (3 marks)

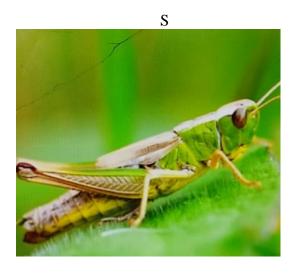
Test tube	Observation
P	
Q	
R	

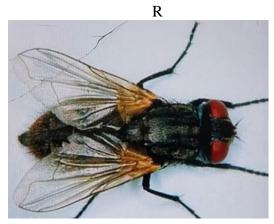
- b) To test tube Q, add 3 drops of 0.1 % sodium chloride solution and 2ml of solution A. Place test tube P, Q and R in a water bath and maintain at 37°C for 30 minutes. Using a drop of the solution from each test tube, repeat the procedure in (a) above and spare the rest for the next question. Record your observation in the table below
- c) (2 marks)

Test tube	Observation at the end of the experiment
0	

	R						
d)	Put 2cm³of solution from test tube P in a clean test tube and add 2cr Benedict's (solution B) shake then heat the mixture to boil in a hot Record your final observation in the table below.						
	Test tube Observation after experiment						
	Q						
	R						
e)	Why was tes	st tube P included in the experiment?	(1 mark)				
f)	experiment	the observations made in test tube Q and R at the end of tube Q	of the (4 marks)				
	ii) Test	tube R					
g)	Suggest the	identity of solution A	(1 mark)				
h)	Why was the	e water bath maintained at 37°C?	(1 mark)				

2. a) Study the photographs below for specimen R and S.





(i) State four observable differences between the specimen R and S (4 marks)

a . b	g : g
Specimen R	Specimen S
Specimen K	Specimen 5

	(ii) Suggest the advantages of the ad	aptations on the limbs of specime	en S (2marks)
	b) Name the phylum and class to which	n the specimen belongs.	(2 marks)
	c) i) Give the type of metamorphosis is	n S	(1 mark)
	ii) Draw the life cycle of the type of the type of the interest (i) above	metamorphosis in the organism m	nentioned in C (3 marks)
3.	(a) You are provided with specimen Q, length from specimen Q. Place two into solution labeled Z. Leave the set up to st	solution labeled Y and another t	-

NB Preserve the other two for use later in question 3(b) (i)

(i) State the observation after 20 minutes when the strips are touched. (6 marks)

	Initial length	Final length	Change in length	Flexibility	Texture
Strips in solution Y	2cm				
Strips in solution Z	2cm				

(ii) Account for the	observations	in (c) (i) abo	ve	(4	l marks)
(b) (i) using a mortar artest tube and add solution	-		•		extract in a mark)
(ii) Repeat the peroxide. State	•		istilled water i	•	drogen mark)

(i) It was necessary to crush specimens in the experiment.

(c) Explain why:

(ii) Hydrogen peroxide should not accumulate in living tissue. (1 mark)

(1 mark)