
**KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS**

**MARANDA HIGH SCHOOL
BIOLOGY THEORY
PAPER 2**

SCHOOLS NET KENYA
Osiligi House, Opposite KCB, Ground Floor
Off Magadi Road, Ongata Rongai | Tel: 0711 88 22 27
E-mail: infosnkenya@gmail.com | Website: www.schoolsnetkenya.com

MARANDA SCHOOL KCSE TRIAL AND PRACTICE EXAM 2016

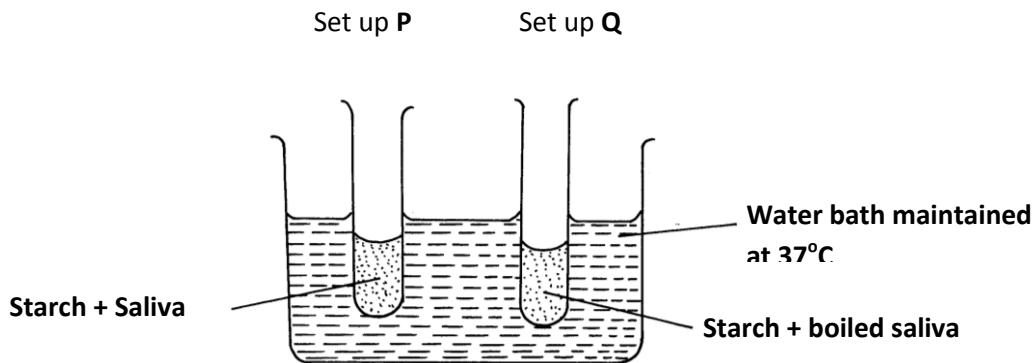
Paper 2

SECTION A: (40 MARKS)

Answer all the questions in this section in the spaces provided.

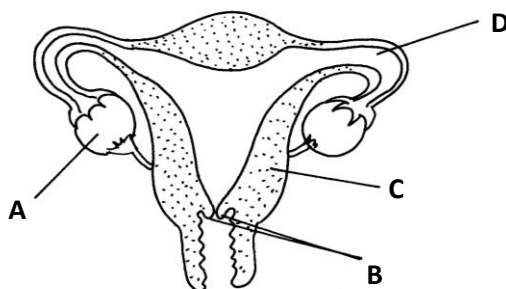
- A cross between a red flowered plants produced plants with pink flowers. Using **R** to represent the gene for red colour, and **W** for white colour,

 - What were the parental genotypes (1mark)
 - Work out a cross between **F₁** plants. (4marks)
 - Give the:
 - Phenotypic ratio of **F₂** plants (1mark)
 - Genotypic ratio of **F₂** plants (1mark)
 - Name a characteristic in humans which is controlled by multiple alleles. (1mark)
- In an experiment to investigate an aspect of digestion, two test tubes **P** and **Q** were set up as shown in the diagram below.



The test tubes were left in the water bath for 30 minutes. The content of each test tube was then tested for starch using iodine solution.

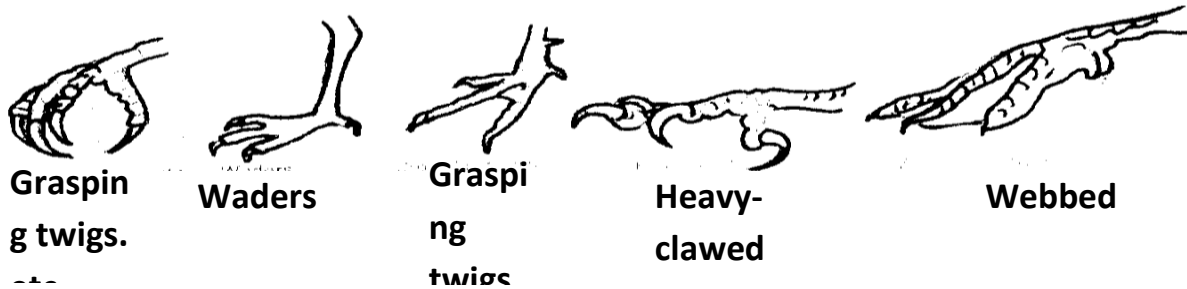
- What was the aim of the experiment? (1mark)
 - What results were expected in test tube **P** and **Q**. (2marks)
 - Account for the results you have given in (b) above test tube **P** and **Q** (2marks)
 - Why was the set up left at 37°C for 30 minutes? (1mark)
 - Name the carbohydrate stored in (2marks)
 - Mammalian liver
 - Potato tuber
- The diagram below represents the female reproductive system.



- Name the structures labelled **A** and **C** (2marks)
- State the conditions that results if implantation occurs at point labelled **D**. (1mark)

- (c) Name the hormone secreted by the part labelled **A** and for each give **one** function. (4marks)
- (d) What role does part labelled **B** play during pregnancy? (1mark)

4. Study the diagram below and answer the questions that follow.



- (a) What type of evolution is illustrated by the limbs? (1mark)
- (b) What does the origin of the limbs suggest about the ancestry of these animals? (1mark)
- (c) (i) What are the vestigial structures? (1mark)
- (ii) State an example of vestigial structures in human. (1mark)
- (d) (i) What is natural selection? (1mark)
- (ii) Give **one** example of natural selection in action (1mark)
- (e) Explain comparative serology as an evidence of evolution. (2marks)
5. (a) What is blood transfusion? (1mark)
- (b) State **three** precautions to be observed before transfusing blood (3marks)
- (c) State the advantage and disadvantage of blood group **O**. (2marks)
- Advantage
- Disadvantage
- (d) (i) What is a universal recipient? (1mark)
- (ii) State the blood group of universal recipient. (1mark)

SECTION B (40 MARKS)

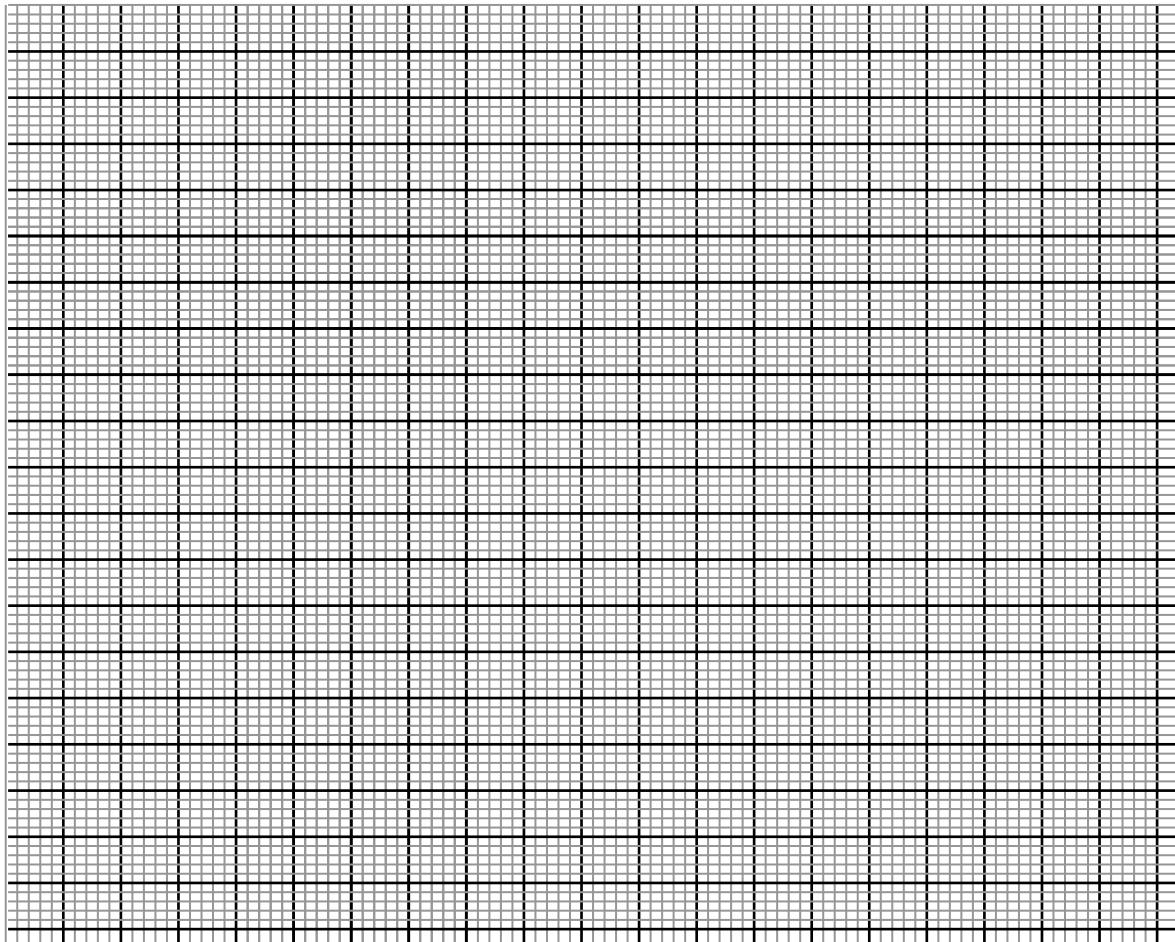
Answer any 6 (COMPULSORY) in the spaces provided and either question 7 or 8 in the spaces provided after question 8.

6. Two persons **A** and **B** drank volumes of concentrated solutions of glucose. The amounts of glucose in their blood was determined at intervals. The results are shown in the table below.

Time in minutes	Glucose level in blood (mg/100cm ³)	
	A	B
0	87	84
15	112	123
30	139	170
45	116	188
60	100	208
90	95	202
120	92	144
150	88	123

On the grid provided, plot graphs of glucose level in blood against time on the same axes.

(7marks)



- (a) What was the concentration of glucose in the blood of person **A** and **B** at the 20th minute? (2 marks)
 - (c) Suggest why glucose level in person **A** stopped rising after 30 minutes while it continued to rise in person **B**. (2marks)
 - (d) Account for the decrease in glucose level of person **A** after 30 minutes and person **B** after 60 minutes. (4marks)
 - (e) Name the compound that stores energy released during oxidation of glucose. (1mark)
 - (f) Explain what happens to the excess amino acids in the body. (4marks)
7. (a) Name and state the functions of the cellular components of mammalian blood. (7marks)
- (b) What are the functions of the blood plasma in mammals? (13marks)
8. Explain how a bony fish is adapted for movement in its habitat. (20marks)