NAME:……………………………………………………………ADM NO:…………….CLASS:………

**KAHUHO UHURU HIGH SCHOOL**

**FORM 3 TERM 3**

**BIOLOGY PAPER 2**

**TUNE UP EXAM 2014**

**TIME: 1 ½ HRS**

## INSTRUCTIONS

* ***The paper has TWO sections A and B***
* ***Answer all questions in this section A, and follow instructions for Section B.***

**SECTION A (30 MARKS)**

1. (a) what is meant by the term biological control ( 1 mark)

(i) Give two examples of biological control (2 marks)

(b) (i) What is eutrophication? ( 2 marks)

(ii) What are the effects of eutrophication ( 2 marks)

(c) Name two substances responsible for acid rain ( 2 marks)

1. The chart below shows the number of chromosomes before and after cell division and fertilization in a mammal.

2n 2n

z z

n n n n

2n

n n

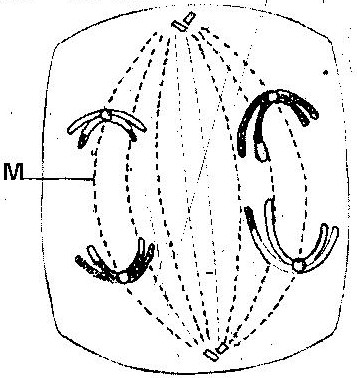
(a) What type of cell division takes place at Z? (1mark)

(b) Where in the body of a female does process Z occur? (1mark)

(c) On the chart indicate the position of parent and gametes (2marks)

(d) What is the significance of meiosis? (2 marks)

1. The diagram below represents a stage during cell division



(a) (i) Identify the stage of cell division (1mark)

(ii) Give two reasons for your answer (a) (i) above (2marks)

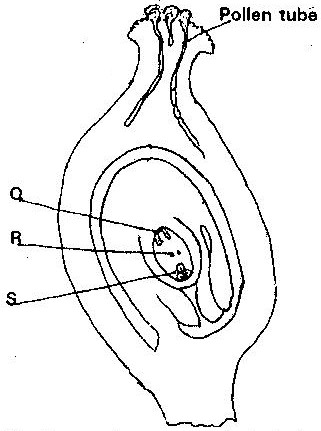
(b) Name the structure labeled M (1mark)

1. (a) What is meant by the following terms?

(i) Protandry (1mark)

(ii) Self- sterility ( 1 mark)

(b) The diagram below shows a stage during fertilization in plant



(i) Name the parts labeled ( 3 marks)

Q …………………………………………

R …………………………………………

S………………………………………….

(ii) State the function of the pollen tube ( 1 marks)

1. On the diagram, label the micropyle ( 1 mark)
2. A flower was found to have the following characteristics
   * Inconspicuous petals
   * Long feathery stigma
   * Small light pollen grains
3. What is the likely agent of pollination of the flower? ( 1 mark)

1. What is the significance of the long feathery stigma in the flower ( 1 mark)

1. Name the part of a flower that developed into:
2. Seed ( 1 mark)

1. Fruit ( 1 mark)

**Section B (20marks)**

Answer question 6 (compulsory) and any other between 7 and 8 in the spaces provided

1. The numbers of different types of animals supported by a square kilometer in two terrestrial ecosystems are shown in the table below

|  |  |  |
| --- | --- | --- |
| Type of ecosystem | Type of animal | Number of animals supported per sq. km |
| Acacia savannah | **Domestic animals**  Cattle  Goat  Sheep | 7  30  10 |
| Bush land | **Wild games**  Thomsons’s gazelles  Eland  Wildebeest  **Domestic animals**  Cattle  Goats  Sheep  **Wild game**  Thomson’s gazelles  Eland  Wildebeest | 450  20  60  2  15  5  200  12  10 |

1. (i) Which domestic animal is better adapted to both ecosystems? (1 mark)

(ii) Give a reason why the animal named in (a) (i) above is better adapted to the two ecosystems.

(1 mark)

1. Why are cattle and sheep fewer in the bush land than in the savannah? (1 mark)

1. (i) Name suitable methods that were used to estimate the population of:

Domestic animals (1 mark)

Wild animals (1 mark)

(ii) Give a reason why the method named for wild animals in (c) (i) above is suitable (1 mark)

1. Name two biotic factors that could have regulated the animal population in both ecosystems

(2 mark)

1. State two human activities that affect population of animals in game parks (2 mark)

1. Explain how a flower is modified to insect pollination (10 marks)
2. Explain how the various activities of man have caused pollution of air. (10 marks)