

NAME:.....INDEX .....DATE.....

SCHOOL:.....SIGNATURE.....

231/3

BIOLOGY

PAPER 3 (PRACTICAL)

JULY / AUGUST, 2010

1¾ HOURS

## BELGUT / AINAMOI JOINT EVALUATION EXAMINATION Kenya Certificate of Secondary Education 2010

231/3

BIOLOGY

PAPER 3

JULY / AUGUST 2010

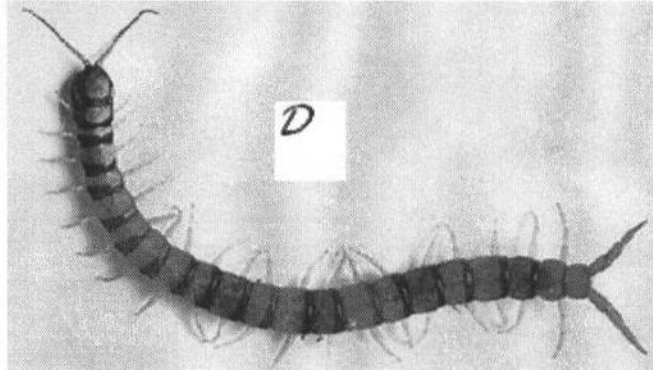
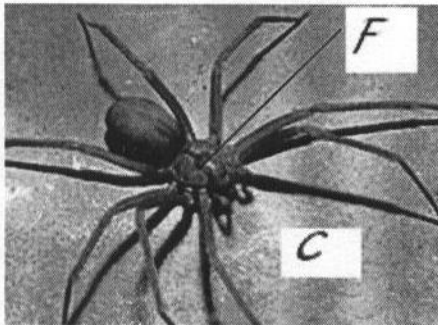
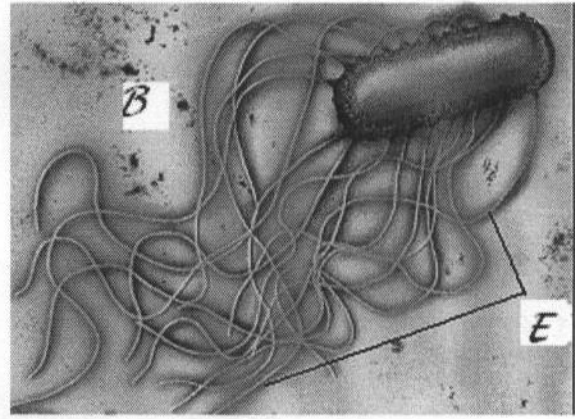
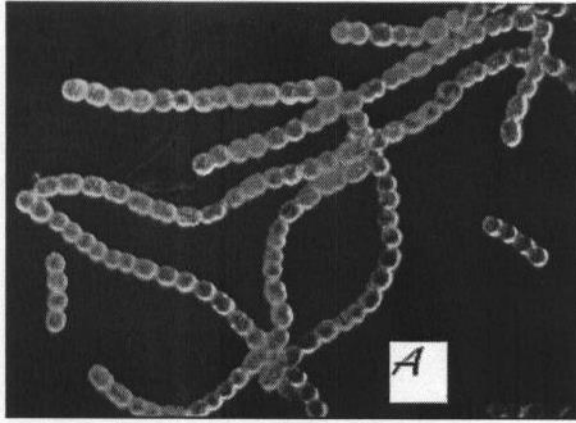
### **INSTRUCTIONS TO CANDIDATES:**

- ❖ *Write your name, index number and the name of your school in the spaces provided above.*
- ❖ *Sign and write the date of the examination the spaces provided above.*
- ❖ *Answer all the questions in spaces provided. Do not insert additional papers.*
- ❖ *You are required to spend the first 15minutes of the 1¾hrs allowed for this paper reading the whole paper carefully before commencing your work.*

### **For Examiner's Use Only**

QUESTION	MAXIMUM SCORE	CANDIDATES SCORE
1	14	
2	13	
3	13	
<b>TOTAL</b>	<b>40</b>	

1. Study the photographs below carefully and answer the questions that follow.



a) i) The organisms shown in A and B belong to the same kingdom.

Identify the kingdom.

(1mk)

.....

ii) Give a reason for your answer in a) i) above

(1mk)

.....

b) i) Name the structures labelled E

(1mk)

.....

ii) State the function of structures labelled E

(1mk)

.....

iii) Identify the mode of reproduction as shown in A above

(1mk)

.....

c) State one economic importances of the organisms in the kingdom mentioned in (a) (i) a above

(1mk)

.....

.....

.....

d) i) identify the phylum to which organisms C and D belong

(1mk)

.....

ii) Using observable features state two reasons for your answer in d) i)(2mks)

.....  
.....  
.....  
e) Name the body segment labelled F. (1mk)

.....  
f) Using observable features , name the class to which organisms C and D belong giving one reason in each case (4mks)

C

Class.....

Reason.....  
.....  
.....

D

Class .....

Reason.....  
.....  
.....

2. a) You are provided with a specimen labelled R. Examine the specimen carefully and answer the questions below

a) i) Suggest the likely habitat of the organism which the specimen R was obtained (1mk)

.....  
.....

ii) State the reason for the answer given in 'a' above. (1mk)

.....  
.....  
.....

b) Use the specimen R to describe the following:-

i) The external features / characteristics of the leaves (2mks)

.....  
.....  
.....  
.....

ii) The external features of the flower (3mks)

.....  
.....  
.....

iii) The male parts of the flower (2mks)

.....  
.....  
.....

iv) The female parts of the flower (1mk)

.....  
.....

C i) Suggest the likely agent of pollination for the flower. (1mk)

.....

ii) Explain how the flower is adapted to pollination by the agent you have named in

(c) (ii) above (2mks)

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.....  
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3. You are provide with specimen W1, a coloured dye labelled solution S.

Place the petiole to stand in a small beaker containing coloured dye undisturbed for 30 minutes after which cut a thin section across the stem closer to the end dipped in dye.

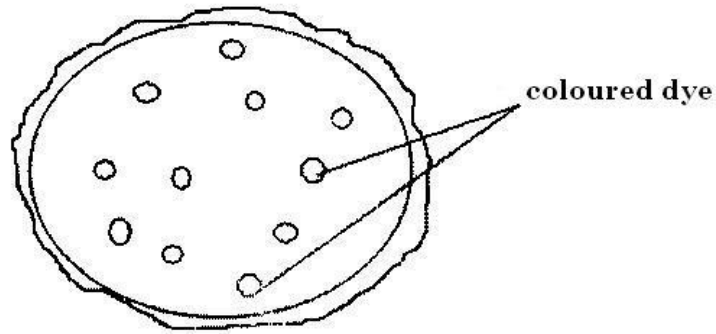
Examine the cut surface using a hand lens.

a) i) Make a drawing of the cut section indicating the positions of the coloured dye (2mks)

ii) Calculate the magnification of your drawing (show your working) (2mks)

b) The diagram below shows across section of the stem of a different plant W2 whose

petiole was also immersed in coloured dye.



i) State **one** difference in the distribution of coloured dye in the two plants. (1mk)

.....  
 .....

ii) Name the tissue which takes up the dye in petioles of W1 (1mk)

.....

c) i) You are provided with solution W3 . It is a solution translocated in the stem of plant W1. The solution has been boiled with dilute hydrochloric acid neutralized with a bicarbonate solution. Using the reagents provided , test for the food substances present in solution W3. And fill the table below appropriately. (6mks)

Food substance	procedure	observation	conclusion

ii) Suggest the type of sugar translocated in the stem of plant W1. (1mk)

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