

FORM FOUR CLUSTER KCSE MODEL 1

BIOLOGY PAPER 3 QUESTIONS

1. a) You are provided with a specimen labelled D. Examine the specimen

i) State the primary function of the plant organ. (1 mark)

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ii) Using an observable feature, state how the specimen is suited to the function named in (a) (i) above. (1 mark)

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iii) Name the class of plant from which the specimen was obtained. (1 mark)

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iv) Give a reason for your answer in (a) (iii) above. (1 mark)

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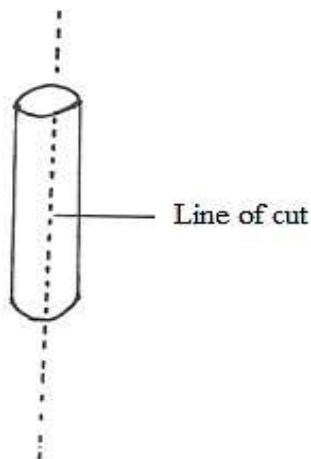
v) State one way in which support is brought about in the specimen. (1 mark)

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b) Cut a 3cm long piece from the leaf stalk of specimen D. Cut the piece along its length to obtain two similar halves as illustrated below.
Place one of the pieces into the liquid labelled L1 and the other piece in L2. Let the set up stand for 30 minutes.



i) Name the physiological process that was being investigated in the experiment. (1 mark)

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ii) State the appearance of the piece put in the solution labelled:

L1 ... (1 mark)

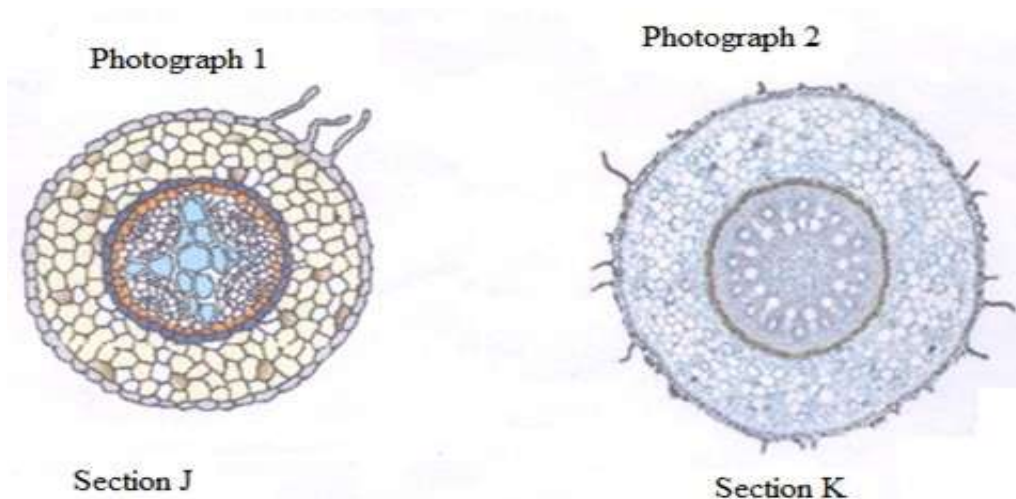
L2 ... (1 mark)

iii) Account for the appearance of the pieces in solutions L1 and L2. L1

..... (2marks)

L2..... (2marks)

c) The attached photomicrographs illustrates two different cross sections of a plant organ.



i) Name the plant organ from which the sections were obtained. (1 mark)

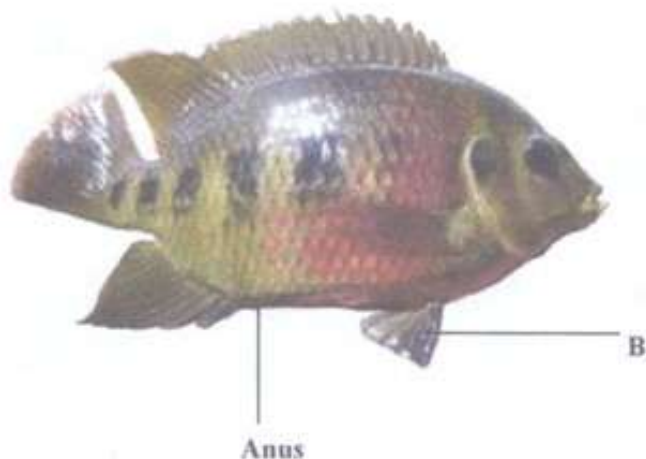
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ii) State two differences between the cross sections labelled J and K. (2marks)

J	K

2.

a) The attached photograph shows structures visible in a particular specimen.



i) Name the fin labelled B. (1 mark)

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ii) State one function of the fin named in a) (i) above. (1 mark)

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iii) State one observable feature in the specimen that reduces resistance to forward movement. (1 mark)

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iv) Measure the length of the specimen and the length of the tail in cm.

Using the measurements, calculate the tail power. (1 mark)

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b) The attached is a photograph of parasitic worms in humans

Photograph 4



i) Name the vector for the parasites shown above. (1 mark)

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ii) Name the disease that is caused by the parasites. (1 mark)

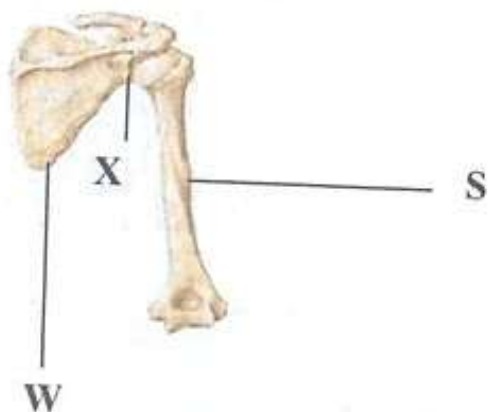
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iii) How are the parasites adapted to their mode of life? (1 mark)

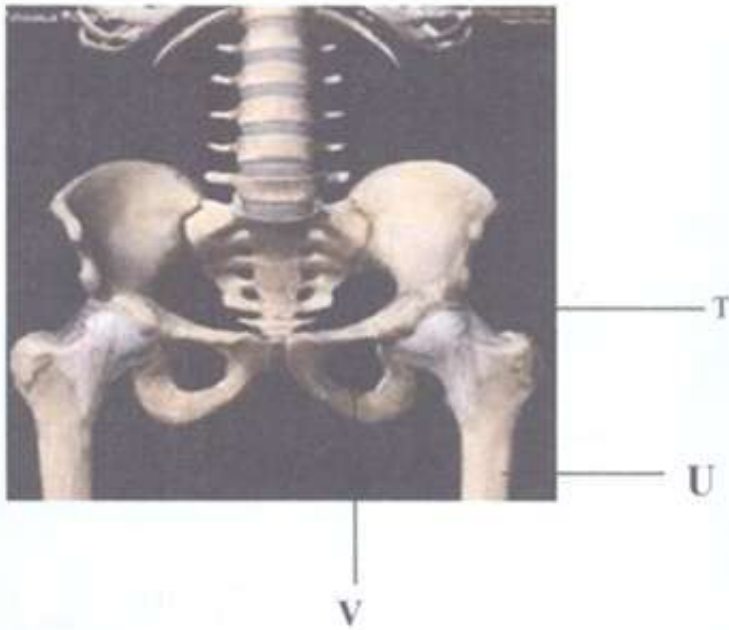
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c) The attached photographs illustrates parts of the human skeleton.

Photograph 5



Photograph 6(a)



Photograph 6(b)



i) Name the bone labelled S and W. (2marks)

S.....

W.....

ii) Name the girdle labelled X. (1 mark)

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iii) Name the joint that is formed at the part labelled T. (1 mark)

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iv) State the function of the opening labelled V. (1 mark)

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v) How is the bone labelled U adapted to its function? (1 mark)

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3. a) You are provided with specimen labelled E. Cut a transverse section of the specimen to obtain two halves

i) Name the type of fruit that is represented by the specimen. (1 mark)

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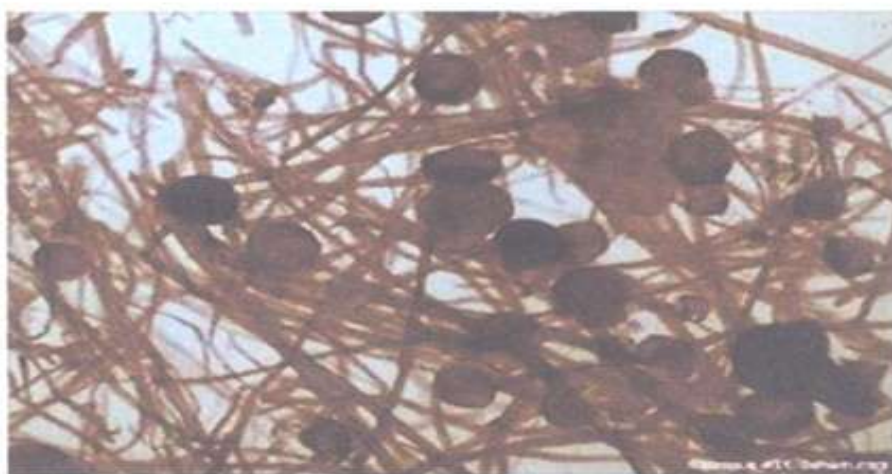
ii) Give a reason for your answer in (a) (i) above. (1 mark)

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iii) Squeeze the juice from the specimen into a beaker. Using the reagents provided, carry out tests to determine the food substances present in the juice. (4marks)

Food substance	Procedure	Observation	Conclusion
b) A form three student observed a grey -black organism growing on a substrate as shown in the photography attached.			

Photograph 7



i) Name the organism. (1 mark)

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ii) Name the Kingdom to which the organism belong. (1 mark)

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iii) What is the role of the organism in a terrestrial ecosystem? (1 mark)

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iv) Explain how the grey-black organism develops on the substrate. (3marks)

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