

MOCK I EXAMINATIONS 2022
Biology practical
PAPER 3
TIME: 3HOUR 15 MINUTES


Kityo. R

INSTRUCTIONS:
This paper consists of three questions
Attempt all questions.
Answers must be written in the spaces provided only

FOR EXAMINER'S USE ONLY		
Question	Marks	Examiners Signature
1		
2		
3		
TOTAL		

1. You are provided with specimen K. Examine the external features of the specimen.

- (a) Give three external features used to classify the specimen in to the class to which the specimen belongs: (1½ marks)

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- (b) Place the specimen with its ventral side uppermost. Cut off part of the limb's posterior to the femur.

- (i) Draw and label the anterior half of the trunk region of the specimen. (9½ marks)

- (ii) How are any two parts labeled in (b) (i) adapted for survival of the specimen in its habitat? (2 marks)

1

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2

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(iii) Remove the head of the specimen with its accessory structures. Using a hand lens Observe the following on the head from Ventral views.

- i) Segmentation of the head Plus the compound eyes,
- ii) Visible mouth parts and
- iii) Attachment of 1st segment at base of the left antenna.

Draw left half of the head to show parts observed in (i), (ii) and (iii) above. **Do not label.**

(9 marks)

- a) Dissect the specimen to display structures responsible for locomotion plus those used for transport of materials in the body of the specimen anterior to the 5th abdominal segment. Draw and label with dorsal cuticle displaced to left of the specimen. (18 marks)

2. You are provided with specimen N and sucrose solution of different concentrations labeled F, G, H, I and J. Label **five** test tubes **F, G, H, I** and **J** and place them in a test tube rack.

Use a cork boarer of 0.5cm in diameter, cut **five** cylinders from specimen N. Trim the cylinders to a uniform length of 4cm each.

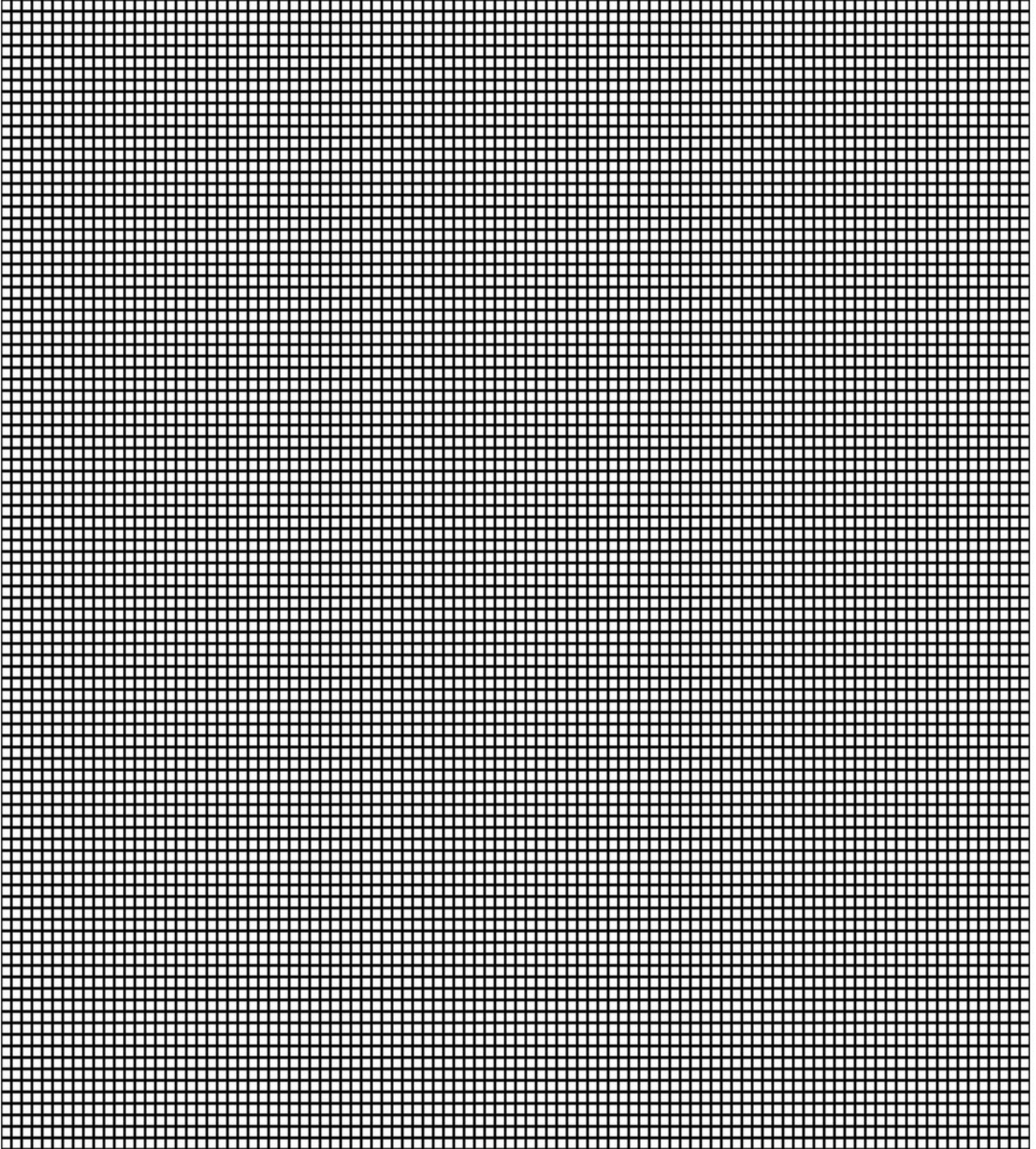
Place one cylinder into each of the five test tubes and pour the corresponding solution until the cylinder is completely covered. Leave the set up to stand for **one hour**.

After one hour, pour away the solutions and remove the cylinders, but taking care to know which cylinder is from which test tube. Bloat each cylinder gently with a bloating paper or filter paper to remove excess liquid.

- (a) Measure and record the final length of each cylinder in the table below. For each cylinder calculate the initial length to final length ratio. (10 marks)

Sucrose concentration(M)	Initial length (cm)	Final length (cm)	Initial length (IL): Final length (FL)	Change in length (cm)
H				
J				
F				
I				
G				

- (b) Plot a suitable graph of the initial to final length (IL/ FL) against sucrose concentration.
(8¹/₂ marks)



(c) Using the graph, explain the changes in length of potatoe cylinder in each test tube.
(10 marks)

H

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J

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F

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I

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G

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(d) Arrange the test tubes in order of increasing sucrose concentration (2½ marks)

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3. You are provided with specimens P, Q, R, and S.
- (a) Examine them and state the phylum of each specimen giving a reason in each case. (08 marks)

Specimen	Phylum	Reason
P		
Q		
R		
S		

- (b) Obtain a unit of P, mount it in water on a slide and observe under medium power of a microscope. State how the specimen is adapted for nutrition. (01 mark)

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- (c) (i) Isolate one functional unit of specimen Q growing vertically. Put it on a slide and observe under medium power of a microscope. Draw and label. (04 marks)

(ii) Dust particles of Q from tips of vertically growing structures onto a slide. Observe under medium power of a microscope. From the structures of Q explain how it is adapted for propagation. (03 marks)

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(d) (I) Examine specimen R and suggest its habitat. (01 mark)

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(i) Isolate one unit of R and examine it. State how the specimen is adapted for survival in the habitat stated in (d) (I). (04 marks)

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(e) (I) Examine specimen S and state the class of plants it belongs to. (01 mark)

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(ii) Give three descriptive features of specimen S which qualify it to be in the class stated in e (I). (03 marks)

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(f) Cut a thin traverse section of the main root of specimen S Place it onto a slide and observe under low power of a microscope. Draw and label a plan to show the arrangement of tissues. (05 marks)

END

S.6 BIOLOGY MOCK2 P30/3 INSTRUCTIONS

K - Freshly killed cockroach

Sucrose Solutions:

F- 0.0M

G - 0.2M

H - 0.4M

I - 0.6M

J - 0.9M

P - Spirogyra

Q - Whole Fern

R - moist moss placed in a petri dish

S - Whole Amarathus Plant