

P530/3
BIOLOGY
(Practical)
Paper 3
.....2022
2 HOURS.

FINAL ASSESSMENT
ALL QUESTIONS ARE COMPULSORY

1. You are provided with two freshly killed animal specimens E, F and G.
(a) Observe the head of specimen E and F. compare the structure head of both specimens.

Similarities. (02marks)

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Differences. (04marks)

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- (b) Carefully observe body of specimen F and use the structural features that are unique to specimen F that enable it survive in its habitat. (09marks)

[illegible]

(d) Carefully cut out the mandibles of specimen G and; Pass your finger along the inner edge of each mandible to feel its inner surface. (05marks)

(i) Describe your observation(s)

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(ii) Give reason(s) for your answer(s) in (i) above.

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(e) Make the following measurements, and Take recordings in the table below in (mm). Determine the ratios for each measurement and state the significance(s) for each ratio.

(4½marks)

SPECIMEN G		
Length of elytra	Distance from point of attachment of elytra to tip of tergum	Ratio
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SPECIMEN F		
Length of tail	Length of rest of body	Ratio
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SPECIMEN E		

Length of forelimb	Length of hind limb	Ratio
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Significance of ratios;

(7½marks)

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2. You are provided with solution c which is a mixture of two solutions A and B.

You are required to open specimen G and cut out its midgut, transfer it to a motor, grind it into fine paste and add 3cm³ of distilled water, stir and leave it to settle; and decant. Label the resultant extract as D.

(a) Carry out the following tests on solution C to identify its nature. Record your procedure, deductions and observations in table below. (10marks)

Table 1.

Test	Observations
Starch test	
Benedict's test	
Non reducing sugar test	

(b) To 3cm³ of solution C, add 2cm³ of extract D. incubate the mixture at (37-40) °C in a constant temperature water bath for 20 minutes. Meanwhile you may proceed with other numbers. After 20 minutes, remove the test tube and all the contents to cool for 10 minutes. Divide the contents into three portions and carryout the following tests. Record your observations and deductions in Table 2 below. (10marks)

Table 2.

Test	Observations	Deductions
Starch test		

Benedict's test		
Non reducing sugar test		

(c) From the results explain the effect of extract D on solution C. (04 marks)

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(d) From the results of the experiment, suggest with reasons the nature of solution C. (06 marks)

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End