FORM FOUR CLUSTER KCSE MODEL10

BIOLOGY PAPER 3 QUESTIONS

1.

- Label four test tubes A, B, C and D.

- Into test tube A, add 1ml. Hydrogen peroxide +3ml of Distilled water.

- Into test tube B, add 2ml. of Hydrogen peroxide +2ml. of distilled water.

- Into test tube C, add 3ml. of hydrogen peroxide +1ml. of distilled water.

- Into test tube D, add 4ml. of Hydrogen peroxide only.

Peel the Irish potato provided. Obtain four equal cubes each measuring 1cm x1cm x 1cm.

a) i) Crush one of the cubes in a mortar using a pestle to obtain pulp. Put the pulp in the test tube A, observe and measure the height of foam after 2 minutes. Repeat the above procedure for the test tubes B, C and D and record in the table

Test tube	Height of foam (cm)
A	
B	
C	
D	

ii) Account for the difference in height of foam formed in test tube A and D. (4marks)

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b) i) State the significance of the reaction in the tubes. (2marks)

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ii) Write down a word equation to show the reaction in the tubes. (1mark)

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2.

a) i) Which part of a plant is specimen R and S. (1mark)

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

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b) Cut a transverse section of specimens S, then open specimen R longitudinally. In each case name the type of placentation. (3marks)

R	
S	
T	

c) Draw and label the cut surface of specimen S. (4marks)

d) Squeeze and obtain juice from one half of specimen S into a beaker. Using the reagents P (DCPIP) and Q (a piece of paper) carry out the food tests on juice obtained from S. (8marks)

Food substance	Procedure	Observation	Conclusion

3.

a) i) Name the class to which specimen M belong. (1mark)

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ii) Give four observable features for your answer in (a) i) above. (2marks)

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b) i) Work out the tail power of specimen M. (2marks)

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ii) State the significance of the tail power on specimen M. (1mark)

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c) Specimen N was obtained from specimen M and placed in a Petri-dish of water. Examine it using a hand lens.

State how the following on specimen N are structurally adapted to their function.

i) Gill bar (2marks)

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ii) Gill rakers (2marks)

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iii) Gill filaments (2marks)

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