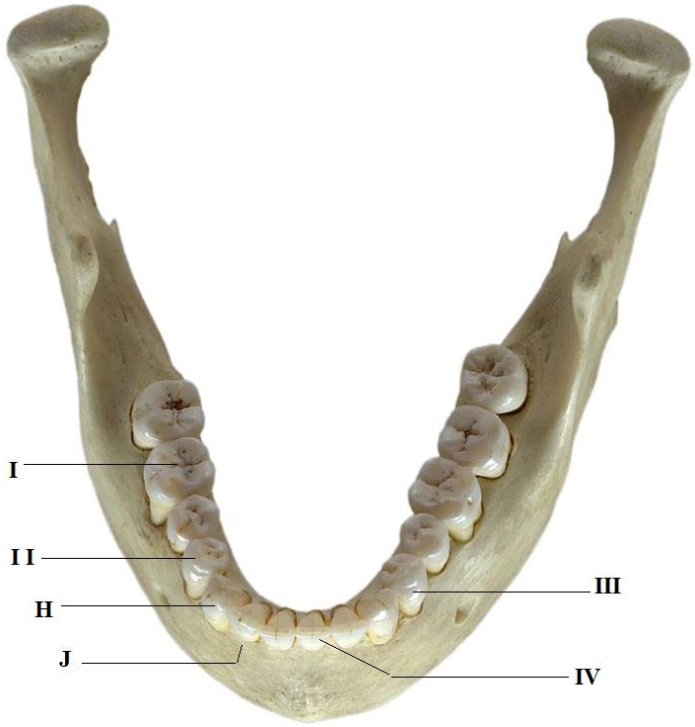
Name: ……..…… Adm no ……..…..... Class.....

231/3
BIOLOGY FORM THREE
END OF TERM TWO

TIME: $1\frac{3}{4}$ HOURS
INSTRUCTIONS TO CANDIDATES:

- *Answer **ALL** the questions*
- *Answers should be written in the spaces provided*

1. Below is a photograph of an adult human jaw with teeth. Study the diagram and answer the questions that follow.



a) State the mode of nutrition in man. (1mk)

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b) Name the type of teeth labeled I and III. (2mks)

I:……..……

III:……..……

c) Name the parts of teeth labeled H and J. (2mks)

H:……..……..…….

J:……..……..….

d) Identify **one** distinguishing feature between teeth labeled II and IV. (1mk)

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e) State **one** function of tooth IV. (1mk)

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f) Write the dental formula from the jaw shown in the photograph. (1mk)

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g) Explain why tooth I would be more prone to dental carries than tooth III, (2mks)

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2. Use the hand lens provided to observe specimen K and answer the questions that follow.

a) (i) In the space below draw a fully labeled diagram of representative part of the specimen.

(5mks)

(ii) Calculate the magnification of your drawing. (2mks)

b) Identify:

(i) The Kingdom (1mk)

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(ii) The Division, to which the specimen belongs. (1mk)

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(iii) Give a reason for your answer in b (ii) above. (1mk)

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c) State the functions of any **two** parts labeled in your diagram. (2mks)

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d) What is the mode of reproduction in the specimen? (1mk)

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e) Explain the significance of colour observed in the specimen M. (2mks)

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3. You are provided with solutions labeled L_1, L2 and L_3. Note that L_3 is the same as L2 except that L_3 has been boiled.

Label three test- tubes A, B and C.
Into the test- tube labeled A add 1ml of solution L_1.
Into the test- tube labeled B add 1ml of L_1 and 1ml of L_2.
Into the test- tube labeled C add 1ml of L_1 and 1ml of L_3.

a) Withdraw a drop from test – tube A and place it on a white tile. To the drop add one drop of iodine solution. Record your observation in the table below. (3 mks)

Test - tube	observation	conclusion
A		
B		
C		

Repeat the procedure with contents in test – tubes B and C. Record your observations in the table.
Place the three test –tubes labeled A, B and C into a water bath at 37^0C.

NB. Ensure that the temperature of the water bath does not fall below 35^0C or exceed 38^0C

b) After 30 minutes, test the contents of each of the test – tubes labeled A, B and C following the procedure in (a) above. Record your observations in the table below. (6 mks)

Test - tube	observation	conclusion
A		
B		
C		

c) Why was test – tube labeled A included in the experiment? (1mk)

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d) (i) suggest the identity of solution L_2 (1mk)

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

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e) Suggest a part of the alimentary canal in the body of a mammal where the process being investigated in the experiment would take place. (1mk)

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f) Account for the results at the end of the experiment in the test – tube labeled.

i) B (1mk)

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ii) C (1mk)

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