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

**231/3**

**BIOLOGY FORM THREE**

**END OF TERM TWO**

**TIME: 13/4 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.
	* + 1. State the mode of nutrition in man. (1mk)

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* + - 1. Name the type of teeth labeled I and III. (2mks)

I:………………………………………………………………………………............……………

III:…………………………………………………………………………………….........………

* + - 1. Name the parts of teeth labeled H and J. (2mks)

H:………………………………………………………………………………........………..…….

J:…………………………………………………………………………………….........……..….

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

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

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* + - 1. Write the dental formula from the jaw shown in the photograph. (1mk)

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* + - 1. Explain why tooth I would be more prone to dental carries than tooth III, (2mks)

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1. Use the hand lens provided to observe specimen K and answer the questions that follow.
	* + 1. (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)

* + - 1. Identify:
				1. The Kingdom (1mk)

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* + - * 1. The Division, to which the specimen belongs. (1mk)

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* + - * 1. Give a reason for your answer in b (ii) above. (1mk)

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* + - 1. State the functions of any **two** parts labeled in your diagram. (2mks)

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* + - 1. What is the mode of reproduction in the specimen? (1mk)

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* + - 1. Explain the significance of colour observed in the specimen M. (2mks)

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1. You are provided with solutions labeled L1, L2 and L3. Note that L3 is the same as L2 except that L3 has been boiled.

Label three test- tubes A, B and C.

Into the test- tube labeled A add 1ml of solution L1.

Into the test- tube labeled B add 1ml of L1 and 1ml of L2.

Into the test- tube labeled C add 1ml of L1 and 1ml of L3.

1. 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 370C.

NB. Ensure that the temperature of the water bath does not fall below 350C or exceed 380C

1. 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 |  |  |

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

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1. (i) suggest the identity of solution L2  (1mk)

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

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1. 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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1. Account for the results at the end of the experiment in the test – tube labeled.
2. B (1mk)

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1. C (1mk)

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