**NAME…… ADM. NO…….**

**ITETANI GIRLS' HIGH SCHOOL**
**P.O. BOX 2220 – 90100**
**MACHAKOS**

**TERM ONE, 2018**
**FORM FOUR**
**BIOLOGY 231/3**

CODE: 1003

*Answer all the questions in the spaces provided*

1. You are provided with Specimen P and Specimen R. Specimen R is boiled Specimen P
   - Cut Specimen P into two pieces
   - Cut Specimen R into two pieces

NB: SAVE THE REMAINING PIECES FOR USE IN QUESTION 2

i) Place one piece of Specimen P in a beaker and add about $20cm^3$ of hydrogen peroxide. Record your observations below. (2 Marks)

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ii) Place one piece of Specimen R in a beaker and add about $20cm^3$ of hydrogen peroxide. Record your observation below. (2 Marks)

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iii) Explain the difference in your observation in i) and ii) above. (4 Marks)

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iv) Write a chemical equation for the reaction in i) above. (1 Mark)

v) Name a body part in animals which can be used in place of Specimen P. (1 Mark)

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2. Crush the remaining part of Specimen R using a mortar and pestle, add about 10ml of distilled water to dissolve and using the reagents provided, conduct a food test.

(8 Marks)

| FOOD | PROCEDURE | OBSERVATION | CONCLUSION |
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3. You are provided with Solution A (Starch), Solution B and Solution C. Solution C is boiled Solution B.
   a) Measure about 2ml of Solution A and pour it into a test tube. Add 2 drops of iodine. Record your observations and conclusion. (1 Marks)

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   b) Measure about 2ml of Solution A and pour it into a test tube. Add 2ml of benedict's solution and warm in a water bath for 4 minutes. Record your observations and conclusion. (1 Marks)

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c) Label two test tubes X and Y.

- To test tube X, add 2ml of Solution A and 4ml of Solution B
- To test tube Y, add 2ml of Solution B and 4ml of Solution C
- Place test tube X and Y in a water bath maintained between $35^0$C and $40^0$C for 30 minutes

i) In the two test tubes (X and Y), test for the presence of non-reducing sugar. Record your observations below. (2 Marks)

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ii) Explain your observations in i) above (4 Marks)

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iii) What is the identity of Solution B (2 Mark)

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iv) Name two parts of the human body where solution B is produced (2 Marks)

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EACH STUDENT WILL REQUIRE:

1. A scapel
2. 2 100ml beakers
3. Mortar and pestle
4. 3 Measuring cylinders
5. Specimen P-Raw peeled potato in a petri dish
6. Specimen R-boiled peeled potato in a petri dish
7. Distilled water
8. 40ml of hydrogen peroxide
9. Sodium hydroxide solution supplied with a dropper
10. 5% copper (ii) sulphate solution supplied with a dropper
11. 0.1% DCPIP solution supplied with a dropper
12. Iodine solution supplied with a dropper
13. Benedict's solution supplied with a dropper
14. Source of heat
15. 6 test tubes
16. Solution A (measure 3g of starch soluble and dissolve in 100ml of distilled water. Heat the mixture until it becomes clear. Add 50ml of water)
17. Solution B (Measure 10g of solid amylase/diastase and dissolve it in 100ml of distilled water)
18. Solution C (Measure 1g of solid amylase/diastase and dissolve it in 100ml of distilled water. Boil for 5 minutes)