**Name|: ……………………………… ADM No…….Class:.…….Signature ……**

**FORM FOUR BIOLOGY (50 marks)**

**TIME: 1½ HOURS**

**INSTRUCTIONS**

***Answer all the questions***

1. a a) state the function of the following parts of hind brain

 i) Cerebellum (1mk)

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 ……………………………………………………………………………………………………….

 ii) Medulla oblongata. (1mk)

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 ……………………………………………………………………………………………………….

1. i. A person was found to pass out large volumes of dilute urine frequently. Name the;

 a) Disease the person was suffering from (1mk)

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 b) Hormone that was deficient (1mk)

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3. The diagram below shows a type of a nerve cell. Study and answer the questions that follow



a.i) Identify the type of nerve cell shown above 1mk

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

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b. Name parts labeled Q and G 2mks

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c. Name the other types of nerve cells 2mks

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iii. On the diagram using an arrow indicate the direction of the nerve impulse 1mk

4. The equation below shows an oxidation reaction of Food substances.

 C51H98O6 + 145O2 ------- X CO2 + 98 H2O + energy

 a) What do you understand by the term respiratory quotient? (2mark)

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 b) Determine respiratory quotient of the oxidation of food substance. (2marks)

 c) Identify the food substances. (1mark)

 …………………………………………………………………………………

5. a) Study the photograph below showing a certain trait in man.



1. Identify the trait exhibited in the photograph above. (1 mark)

…………………………………………………………………………………………

1. The trait you have identified in (d) (i) above is **sex linked**. In which chromosome is it contained. (1 mark)

…………………………………………………………………………………………

1. Name any other sex linked trait in man. (1 mark)

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1. The man in the photograph married a woman. Use a genetic cross to predict the offspring of the above marriage. Let **YH** represent the gene for the trait above. (4 marks)

6. Below are photographs of **Venus flytrap** (an insectivorous plant). Study them and answer the questions that follow.

 A B C

**Spines**

**Sensitive hairs**

**Trapped insect**

(i) Name one major nutrient that is **deficient** in the soil where the above plant grows. (1mk)

…………………………………………………………………………………………………

(ii) Name the type of response shown by plate **C** (1mk)

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(iii) **Describe** how the above plant **traps** the insect (5mks)

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7. a) Explain the various types of tropism in plants 10mks

 b) Discuss the various kinds of evidence for evolution 10mks