**NAME……………………………………………..…….. ADM NO…………..CLASS…….. ROLL NO……**

**KAHUHO UHURU HIGH SCHOOL**

**BIOLOGY DEPARTMENT**

**FORM III TUNE UP EXAM**

**TERM 1 2014**

**Time 1 Hr.30min.**

***Attempt all the questions in the space provide.***

***QUESTIONS (50 marks)***

1. List the use of the energy obtained from the process of respiration. (2mks)

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1. State three characteristics of a respiratory surface. (3mks)

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4. What is meant by the term excretion? (2mks)

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5. Which organelle would be abundant in? (2mks)

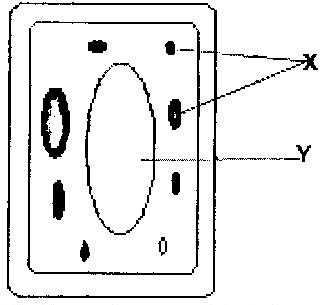
Skeletal muscle cell

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Palisade cell

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6. The diagram below represents a cell.



a) Name the parts labeled x and y (2mks)

X ………………………………..

Y ………………………………..

b) Suggest why the structures labeled x would be more on one side than the other side. (1mk)

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7. Define the following (2mks)

i) Respiratory quotient

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8. The table below shows the concentration of some ions in pond water and in the cells sap of an aquatic plant growing in the pond.

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| --- | --- | --- |
| Ions | Concentration in pond water (parts per million) | Concentration in cell sap (parts per million) |
| Sodium  Potassium  Calcium  Chloride | 50  2  1.5  180 | 30  150  1  200 |

a) Name the processes by which the following ions could have been taken up by this plant. (2mks)

i) Sodium ions

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ii) Potassium ions

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b) For each processes named in (a) (i) and (ii) above, state one condition necessary for the process to take place. (2mks)

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9. State the importance of a counter current flow system in animals. (1mk)

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10. Name two product of dark reaction in Photosynthesis (2mks)

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9. In an investigation, the pancreatic duct of a mammal was blocked. It was found that the blood sugar regulation remained normal

while food digestion was impaired. Explain these observations. (3mks)

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10. Identify any three respiratory substrates (3mks)

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11. Liver damage leads to impaired digestion of fats. Explain the statement. (3mks)

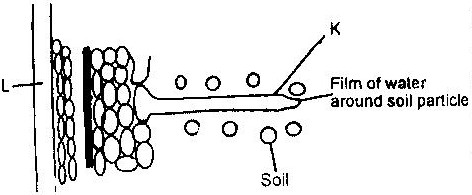
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12. The diagram below represents the pathway of water from soil into the plant.



a) Name the structures labeled K and L

K…………………………………………………..

L………………………………………………….. (2mks)

b) Explain how water from the soil reaches the structure labeled L (5mks)

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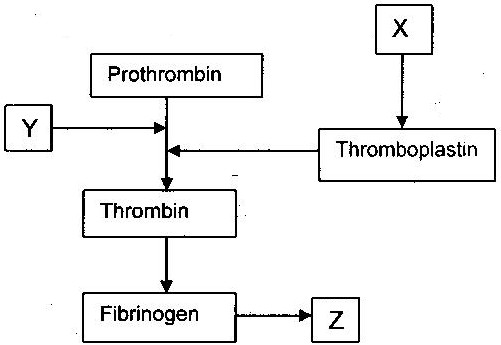
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c) Name the process by which mineral salts enter into the plant. (1mk)

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9. The chart below is a summary of the blood clotting mechanism in man.



Name

1. The blood cells represented by X (1mk)

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1. Metal ion represented by Y (1mk)

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1. The end product of the mechanism represented Z (1mk)

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16. a) A patient whose blood group is A died shortly after receiving blood from a person of blood group B. Explain the possible cause of death of the patient. (2mks)

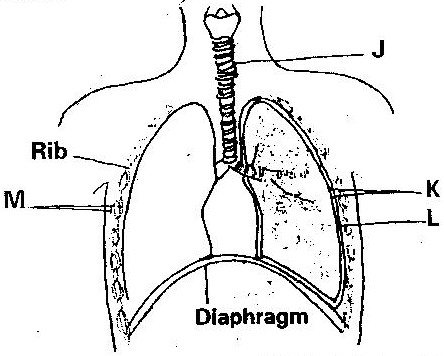
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The diagram below represents some gaseous exchange structures in humans.



a)Name the structure labeled K, L and M (3mks)

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b) How is the structure labeled J suited to its functions? (3mks)

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c) Name the process by which inhaled air moves from the structure labeled L into blood capillaries. (1mk)

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