ROGONGO DEB SECONDARY SCHOOL

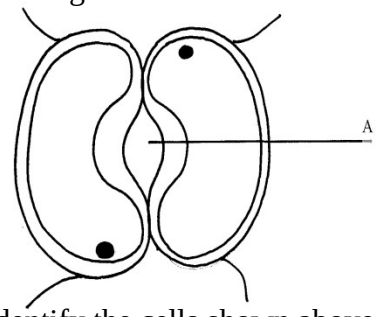
Name…… Exam No……..

Date…… Sign…… Time:2 hours

BIOLOGY FORM TWO MID-TERM EXAMINATION June 2016

Instructions: Answer all the questions in the spaces provided.

1. The diagram below shows cells in plants:-



(a) Identify the cells shown above (1mk)

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(b) Explain how the cells are adapted to their function (2mks)

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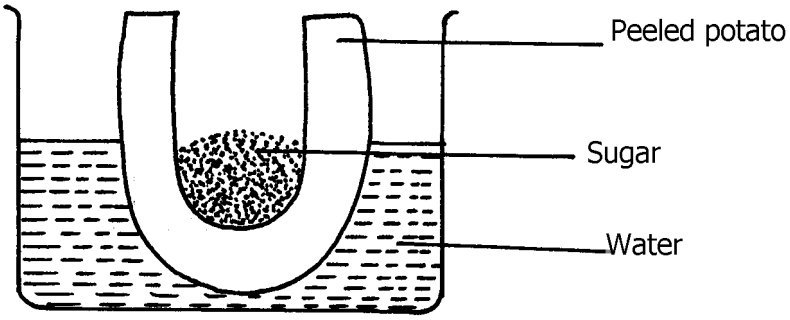
(c) Name the part labeled A in the above diagram ……(1mk)

2. Name the organelles that perform each of the following functions:

a) Digestion and destruction of worn out organelles……(1mk)

b)Osmoregulation……..(1mk)

3. An experiment was set-up as shown below and left for one hour



(a) State the expected result at the end of one hour (1mk)

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(b) Explain the observations made in this experiment (2mks)

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4. State **two** ways in which guard cells differ from other epidermal cells (2mks)

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……

5. Study the dental formula given below:

$$\mathbf{I\ \frac{0}{4};\ C\ \frac{0}{0};\ PM\ \frac{3}{3};\ M\ \frac{2}{3}}$$

(a) Identify with reasons the mode of feeding of the animals whose dental formula is given above

…… (1mk)

(b) Calculate the total number of teeth in the mouth of the above animal (2mks)

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6. State **three** adaptations of red blood cells to their functions. (3mks)

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7. Why would carboxyhaemoglobin lead to death? (2mks)

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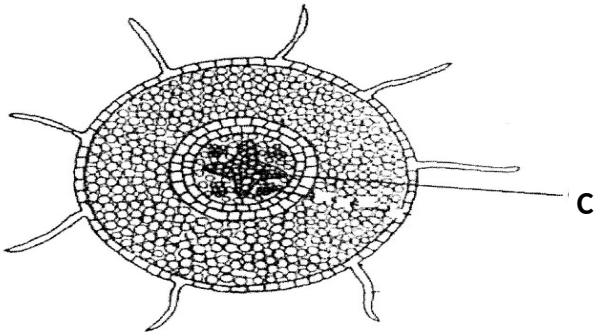
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8. State **two** causes of coronary thrombosis (2mks)

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……..

9. The diagram shows a section through a plant organ.



(a) (i) Name the class of the plant from which the section was obtained belong. (1mk)

……..

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

……

(b) How is the part labelled **C** adapted to its functions? (1mk)

……

……

10.a) Define the term immunity. (1mk)

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……

b) Distinguish between natural immunity and acquired immunity. (1mk)

……

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c) Identify one immunizable disease in Kenya. (1mk)

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11. a) Name a protein and vitamin involved in blood clotting.

i) Protein. (1mk)

……

ii) Vitamin (1mk)

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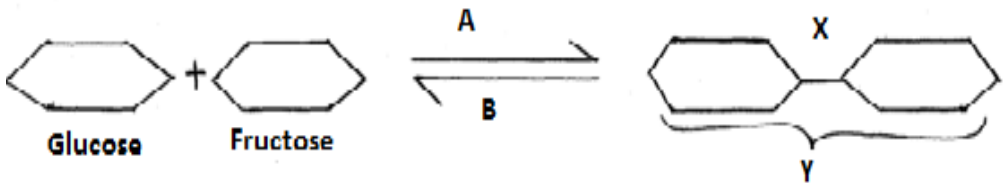
b) Explain why blood is not normally used for transfusion after one month. (2mks)

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12. Study the reaction below and answer the questions that follow.



a) What biological processes are represented by A and B? (2mk)

A .....

B .....

b) Identify the product Y. (1mk)

.....

c) State the bond represented by X. (1mk)

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13. What is the significance of transpiration in plants? (3marks)

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14. Name **three** properties of the cell membrane. (3 marks)

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15. (a)State the circulatory system found in arthropods. (1 mark)

……

(b) Name the blood vessels that transport blood from: (2 marks)

(i) Small intestine to the liver……

(ii) Lungs to the heart……

16. Name the branch of Biology that deals with the study of animals…….……..…(1mk)

17. (a) What is meant by the term taxonomy? (1mk)

……

……

(b) The scientific name of a rat is Rattus norvegicus (2mks)

(i) Write the name correctly

…….

(ii) Identify the genus and species names

……

18.During a practical class, form fours estimated the field of view to be 3.5mm. Using the low power objective, they observed spirogyra cells across the same field of view and counted 8cells.Calculate the size of each cell and give your answer in micrometer (2mks)

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19. The table below shows **three** enzymes **A, B** and **C** and their respective optimum pH.

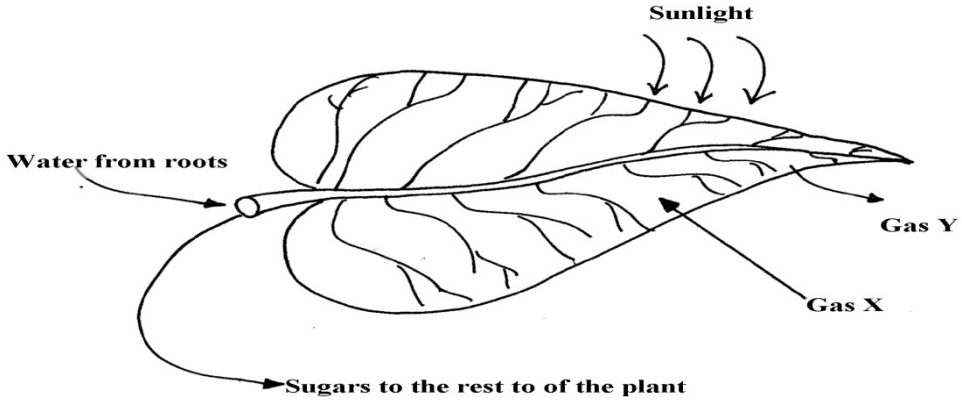
Enzyme	**Optimum pH**
A	6.5
B	2.0
C	8.0

(i) Name the most likely region of the alimentary canal of a mammal where enzyme **B** would be found……(1mk)

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

……

20. The following diagram of a leaf shows what happens in a pant leaf during photosynthesis:-



(a) Give **two** ways in which leaves are adapted to absorb light (2mks)

……

……

……

(b) Name the gases labelled **X** and **Y** (2mks)

……

……

(c) Name the tissue that transports water into the leaf and sugars out of the leaf (2mks)

Into the leaf…….

Out of the leaf……

21. (a) List **three** forces that facilitate the transport of water and mineral salts up the stem.(3mks)

……

……

……...

(b) Name the tissue that is removed when the bark of a dicotyledonous plant is ringed.(1mk)

…….

22. (a) State **three** structural differences between arteries and veins in mammals (3mks)

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……..……...

(c) Name a disease that causes thickening and hardening of arteries (1mk)

…….

23. A person whose blood group is **AB** requires a blood transfusion, name the blood groups of the donors. (2mks)

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……

24. Distinguish between guttation and transpiration (2mks)

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……

25.(a) Give a reason why the left ventricle muscles are thicker than the right ventricles muscle(1mk)

……

…….

(b) State the forms in which carbon (IV) oxide is transported in the blood (2mks)

……

……

26 A transfusion of RH^+ blood was given to a patient with Rh^- blood. After one week a similar transfusion was given to the same patient. What was likely to be the effect of the second transfusion? (2mks)

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27.a) Name the blood vessel that nourishes the heart (1mk) .

……

b) In which form is oxygen transported in the blood…… (1mk)

28. State the name given to the study of (2 mks)

(a) Micro-organisms ……

(b)inheritance and variation ……..

29. Explain the importance of the following to living organisms (3mks)

i) Respiration

……

ii) Excretion

……..

iii) Reproduction

……...