BIOLOGY PAPER 1

KAGONDO SECONDARY SCHOOL

PRE MID EXAM YEAR 2017

231/1

1 State the importance of each of the following in living organisms

i)Respiration ……(2mks)

ii)Reproduction……(2mks)

2.State the function of the following in seed. Germination (3mks)

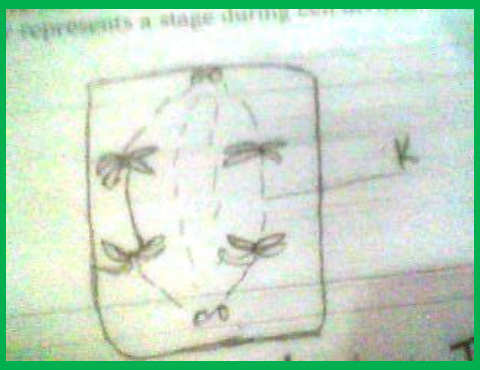
i)Water……..

ii)Enzyme…….

iii)Oxygen…….

3.Distinguish between identical twins and fraternal twins (2mks)

4.The diagram below represents a stage during cell division



i)Identify the stage of cell division (1mk)

ii)Give two reasons for your answer in (a) above (2mks)

iii)Name the structure labeled K (1mk)

5.State three roles of Gibberellin hormones in plant (3mks)

6 i)The diameter field of view of a light microscope is 6.5 mm.Plant cells is lying across the diameter are 12.Determine the size of one cell in micrometers (2mks)

ii)Explain how drooping of leaves on a hot sunny day is advantageous to a plant (1mk)

7.Distinguish between diffusion and osmosis (2mks)

8.State three differences between mitosis and meiosis (3mks)

9 (i)Name the gaseous surface in insects (1mk)

ii)State two ways the surface named in (a) above is suited to its function (2mks)

10.) $5C_{51}H_{98}O_6 + 145\ O_2 \rightarrow 102CO_2 + 98\ H_2O$

The above equation shows an oxidation reaction of food substances

a)What do you understand by the term respiratory quotient (1mk)

b)Determine respiratory quotient of the oxidation of food substances (1mk)

c)Identify the food substances (1mk)

11.Outline three characteristics of a respiratory surface (3mks)

12.State two characteristics of an insect pollinated flower (2mks)

13 i)Distinguish between a community and a population (2mks)

ii)State two measures that can be taken to control infection of man protozoans parasites (2mks)

14 i)Pregnancy continues if the ovary of an expectant mother is removed after 4 months. Explain

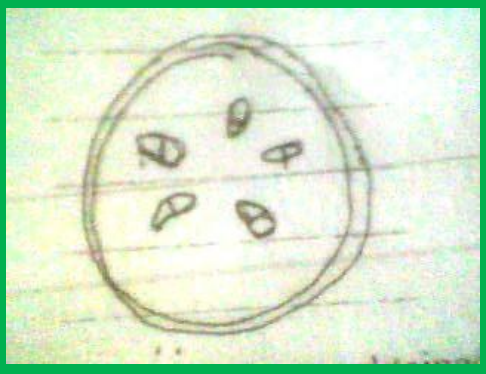
ii)What is the role of testes in the mammalian reproductive system (2mks)

15 i)Outline 4 practical applications of genetics (4mks)

16 a)Explain why Lamarck's theory of evolution is not accepted by biologists today (2mks)

b)State two pieces of evidences that support the theory of evolution (2mks)

17.The diagram below shows a section through plant organ



a)i)Name the class of the section it was obtained (1mk)

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

b)What is the role vascular bundles in plant nutrition (2mks)

18.The following is a dentinal formula of a dog and rabbit, state two differences between them

Dog :1 3/3 C1/1 PM4/4 M2/3

Rabbit:1 2/2 C 0/0 PM 3/2 M 3/3

19.The figure below illustrates a portion of a chromosome with gene named A, B, C,S,Q and R

A	B	C	S	Q	R

Use the diagram similar to the one above to illustrate the changes if the above chromosome undergoes the following mutation affecting only gene C and S

i)Deletion (1mk)

ii)Inversion (1mk)

20.Name the disease characterized by

Glycosuria (2mks)

Diuresis (1mk)

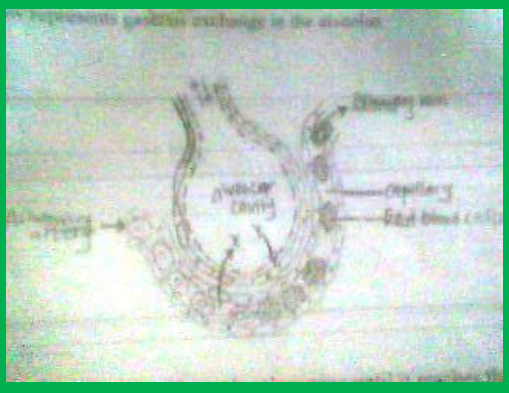
State the importance of each of the following features in animals

a)Solid food being broken down into small pieces (1mks)

b)Presence of caecum in herbivorous mammals (1mk)

21.State the substance that accumulates in muscles when respiration occurs with insufficient oxygen (1mk)

22.The diagram below represents gaseous exchange in the alveolus

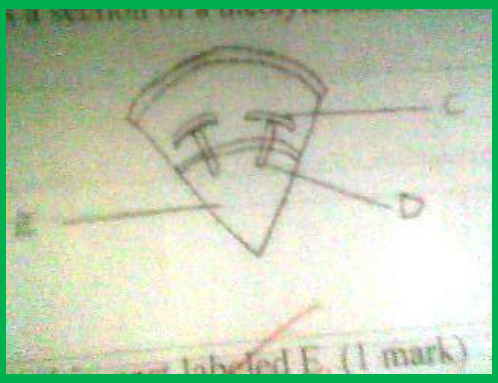


a)Mention the path followed by gas y from alveolar space until it reaches the red blood cells (2mks)

23.Explain how water from the soil is gained by root hair in plant (2mks)

24.In what form is carbon iv oxide transported in blood (1mk)

25.The diagram below shows a section of a dicotyledonous stem



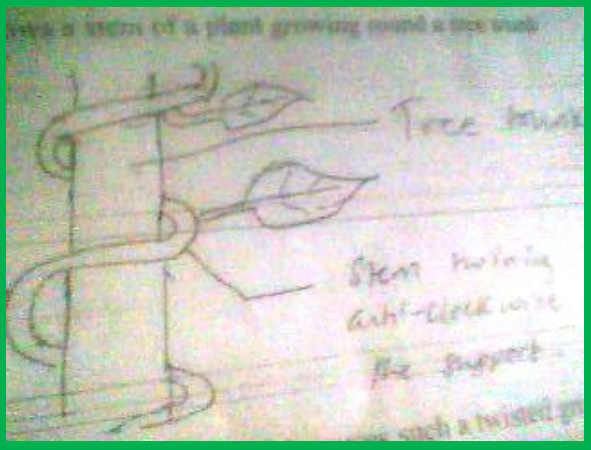
Name the type of cells found in part labeled E (1mk)

26.State three features that a grasshopper, a crab, a spider and a millipede have in common (3mks)

27.State two characteristics of Eukaryotes (2mks)

28.A cell organelle can be thought of as a ''bag'' full of ''liquid'', the ''liquid'' being the ''background'' substance that holds other structures within the ''bag' 'Distinguish between the ''background'' substance of a mitochondria and that of a chloroplast (2mks)

29.The figure below shows a stem of a plant growing round a tree trunk



a) What is the name of the response which causes such a twisted growth (1mk)

b)Explain how twisting process is accomplished (2mks)