NAME----------INDEX NO.----------

SCHOOL----------

CANDIDATE'S SIGNATURE----------

DATE----------

231/1
BIOLOGY
THEORY
PAPER 1
MARCH 2019
2 HOURS

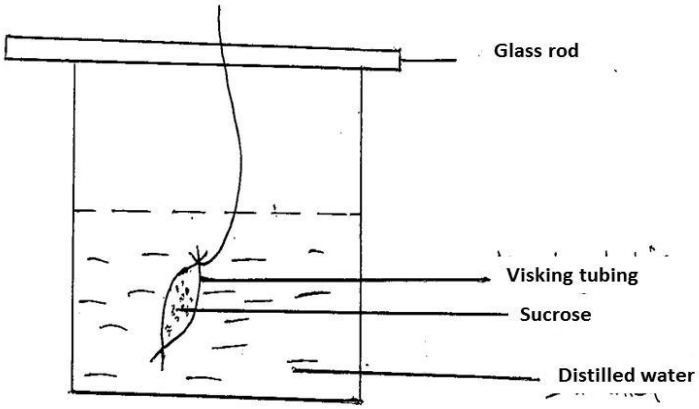
TRIAL ONE EVALUATION TEST

231/1
Paper 1
BIOLOGY

1.Ascaris lumbricaoides is an example of an endoparasite. The name Ascaris refer to (1mk)

2.State the function of cristae in mitochedrion (1mk)

3.An experiment was set up as shown below. Use it to answer the following questions



The set up was left for 30 minutes.

a).State the expected results (2mks)

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b) Explain the observation above (2mks)

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4 a. Photosynthesis take place in two stages . Name the part of the chloroplast cohere

i. Light stage occurs (1mk)

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ii.Dark state occurs (1mk)

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b.Use the equation below to answer the following question

$$Co_2 + H_20 \xrightleftharpoons[L]{K} C_6H_{12}O_6 + 0_2 + ATP$$

i..Identify process K and L (2mks)

K----------

L----------

5ai) Define the following terms (3mks)

i).Mastication

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iii.Peristalysis

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iii).Churning

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b. Explain why pepsin is produced in form of pepsinogen (1mk)

6a.State the role of the following plant vessels

i.) Xylem (1mk)

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ii). Phloem (1mk)

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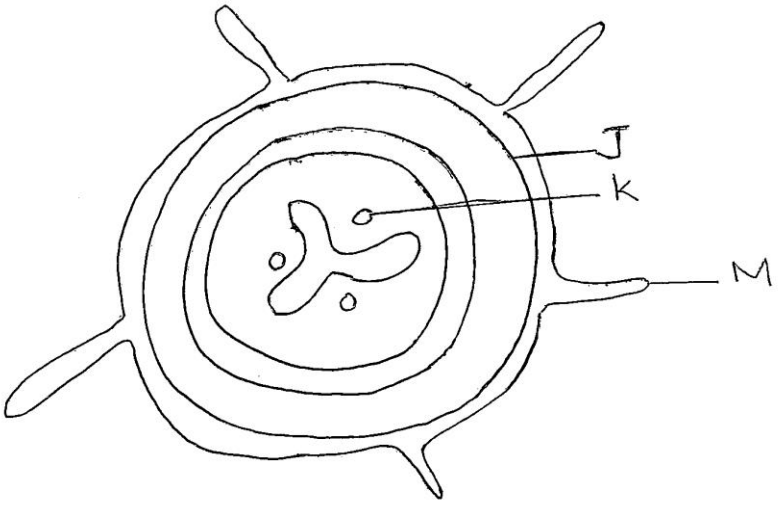
b.



i.From which plant organ was the section obtained (1mk)

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

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c.Name the parts labelled J, K, and l (3mks)

J---

K---

L---

d.State two functions of the part labelled M (2mks)

7.State one difference between open and closed circulatory system (1mk)

8.Differentiate between serum and sebum (2mks)

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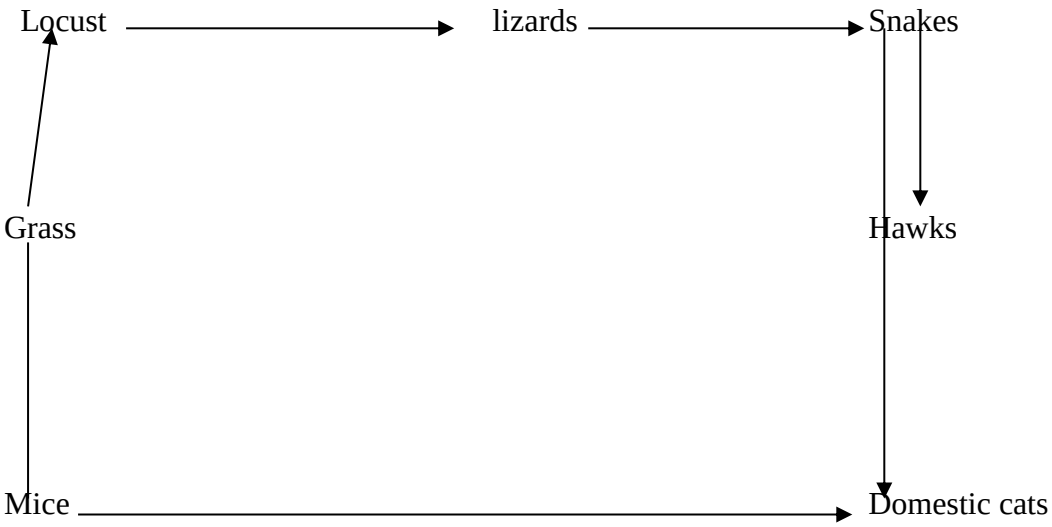
9. State the function of vitamin K and calcium ions in blood clotting (2mks)

10.The chart below shows a feeding relationship in a certain ecosystem



a. Construct two food chains ending with a tertiary consumer in each case (2mks)

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b. Which organism has the largest variety of predators in the food web (1mks)

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c. Name secondary consumers in the food web (2mks)

11ai).State the melodic stage where crossing over occurs (1mk)

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ii).What is the significance of crossing over (1mk)

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bi).Explain why pregnancy persists even when ovaries are removed after the fourth month of pregnancy (2mks)

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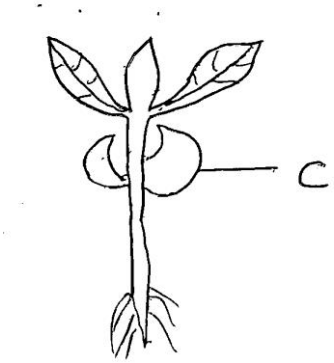
ii).Why do pregnant women excrete less urea (2mks)

12.



ai. Suggest the types of germination exhibited by the seedling above (1mks)

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ii).State 3 roles of part C (3mks)

13.Describe the discontinuous growth among members of class insect (2mks)

14a.i.Describe the adaptations of the guard cells to opening and closing of stomata (2mks)

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ii. State two theories that explain the opening and closing of stomata (2mks)

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b. State two gaseous exchange structures in plants (2mks)

15a.Draw and label the structure of a gill (3mks)

b. Explain the counter current follow system across the gills (2mks)

16.Name two categories of anaerobes (2mks)

17.The equation below shows an oxidation reaction of food substances

$5\ C_{51}H_{98}O_6 + 145O_2 \longrightarrow 102\ CO_2 + 98\ H_20$ + energy

a. Determine respiratory quotient of the oxidation of food substance (2mks)

b. Identify the food substance (1mk)

18.Glucose $\xrightarrow[B]{A}$ Glycogen (2mks)

Name i. A----------

ii B----------

19.The figure below show a portion of nucleic acid

C – U – G – C

i.) Name the nucleic acid (1mk)

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ii).Give a reason (1mk)

20a.What are analogous structures (1mk)

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b.State two examples of analogous structures (2mks)

21.In mice the allele for black fur is dominat to the allele for brown fur.

What percentage offspring would have brown fur from a cross between hetero zygous black mice and brown mice. Show your working. Use letter B to represent the allele for black colour (4mks)

22.Significance of the following practices during preparation of temporary slide (2mks)

i).Staining.

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ii. Cutting thin section

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23. State the Causitive agent of typhoid (1mk)

24.Other than using quadrant method gives one methods of estimating population of grass (1mk)