**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)

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

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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

1. 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

**K**

Co2 + H20 C6H12O6  + 02 + ATP

**L**

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)

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6a.State the role of the following plant vessels

1. 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)

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

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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)

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

 Locust lizards Snakes

Grass Hawks

Mice Domestic cats

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)

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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)

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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)

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

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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)

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

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

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16.Name two categories of anaerobes (2mks)

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

5 C51H98O6 + 145O2 102 CO2 + 98 H20 + energy

1. Determine respiratory quotient of the oxidation of food substance (2mks)
2. Identify the food substance (1mk)

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A

B

18.Glucose Glycogen (2mks)

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

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

19.The figure below show a portion of nucleic acid

 C – U – G – C

1. Name the nucleic acid (1mk)

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ii).Give a reason (1mk)

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20a.What are analogous structures (1mk)

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

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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)

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