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Total Score

Name.....

School .....

Roll No .....

Republic of Somaliland

Somaliland National Examination Board

Form Four

Biology Examination

June 2019

TIME 2 HOURS

Plus 10 minutes for reading through the paper

INSTRUCTIONS TO CANDIDATES

This paper consists of **12** printed pages

Count them now. Inform the invigilator if there are any missing
There are two parts:

PART 1:	20 Multiple Choice Questions	40 Marks
PART 2:	10 Structured Questions	60 Marks
	TOTAL	**100 Marks**

- Answer all questions in part 1 and 2.
- No extra paper is allowed

Use this page for rough work. It will NOT be marked.

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Part One: Multiple Choices **(20 X2 =40 Marks)**

1. Human blue eye color is due to a recessive gene (b) and brown eye color is due to a dominant gene (B). If the mother is BB and the father is Bb, what of their children would be expected to be blue eye?
   a. Two-fourth of the children
   b. One-fourth of the children
   c. Half of the children
   d. Three-fourth of the children

2. Prokaryotes are hydrolyzed to simple sugars in the
   a. Small intestine
   b. Stomach
   c. Mouth
   d. Large intestine

3. Pepsin is a digestive enzyme that acts on
   a. Protein
   b. Carbohydrate
   c. Fats
   d. Vitamins

4. Which of the following is **NOT** true about the cell wall?
   a. Is made up of cellulose
   b. Is a living pair of the cell
   c. Is found in plant cells
   d. Gives shape to the plant cell

5. Which of the following is the correct order of organization from simple to complex
   a. Cell , organ , tissue
   b. Tissue , cell, organ
   c. Organ, cell, tissue
   d. Cell, tissue, organ

6. The chemical equation of respiration is:
   a. $C_6H_{12}O_6 + 6O_2 \longrightarrow 6CO_6 + 6H_2O_6 + Energy$
   b. $6CO_2 + 6H_2O + Energy \longrightarrow C_6 6H_{12}O_6$
   c. $C_6H_{12}O_6 \longrightarrow 2C_3H_6O_3 + Energy$
   d. $C_6H_{12}O_6 \longrightarrow 2C_3H_5OH + Energy$

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7. Which one of the following food substances does not provide energy?
   a. Carbohydrates
   b. Vitamins
   c. Proteins
   d. Fats

8. The direct energy source of cellular respiration is
   a. Lactic acid
   b. ATP
   c. Glycogen
   d. Glucose

9. The response to the first invasion of the pathogen is called
   a. Secondary response
   b. Primary response
   c. Memory cells
   d. Immune

10. Athlete's food is also called
   a. Tineapedis
   b. Tineacruris
   c. Tineacorporis
   d. Tinea

11. Which of the following is the study of the physiological defense by which the body destroys or neutralizes foreign matter, both living and nonliving things
   a. Genetics
   b. Immunology
   c. Acquired immunity
   d. Active immunity

12. An _____ is a molecule that provokes a specific immune response
   a. Acquired immunity
   b. Antibody
   c. Antigen
   d. Active immunity

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13. _____ are all males, they are usually 300 in number in a colony
    a. Queen
    b. Drones
    c. Workers
    d. None of the Above

14. Poulty farming
    a. Are cheap source of protein food egg and meat
    b. Is a source of income especially for commercially
    c. Are source of manure
    d. Is the raising of domesticated birds such as chickens and ducks for the purpose of farming meat or egg for food.

15. Each kingdom split into smaller groups, called
    a. Order
    b. Family
    c. Phyla
    d. Genus

16. Which one of the following is not important in keeping livestock health
    a. Healthy animals produce high quantity and quality products
    b. Health animals have low production costs
    c. Same animals become sick when the weather is cold
    d. Healthy animals work for long period

17. Sheeps are mainly selected for
    a. Milk and beef production
    b. Wool and mutton production
    c. Milk and meat production
    d. Meat and transport

18. The following symptoms which one is not the general symptoms of parasite infestation
    a. Emaciation
    b. Anemia
    c. Diarrhea
    d. Fleas

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19. What is the function of the cytoplasm?
    a. Stores water and mineral ions
    b. Metabolic reactions occur her
    c. Control what enters and leaves the cell
    d. Controls the actions of mitochondrion

20. All of the following statements about a chloroplast and mitochondrion are true **EXCEPT**
    a. Both use proton gradients for ATP production
    b. Both capture light energy
    c. Both contain DNA
    d. Both are bounded by two unit membranes

Part Two Structured Questions (60 marks)

1. a. Define the following terms : (2 marks)

i. Health: .....
ii. Disease: .....

b. State the pathogens that cause infectious diseases (Communicable disease): (3 Marks)

i. .....
ii. .....
iii. .....
iv. .....
v. .....
vi. .....

c. What is the function of each of the following terms? (3 marks)

a. Epidemic .....
b. Endemic .....
c. Pandemic .....

2. a. Describe the causes of the following diseases in human: (3 marks)

i. Malaria: .....
ii. TB: .....

b. Write how the following diseases are transmitted: (2 marks)

i. Gonorrhea

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.....
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ii. Cholera

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3. a. Illustrate any two of the importance of keeping livestock healthy (2 marks)

i. .....

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ii. .....

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b. Write any two out of signs (symptoms) of ill-health in livestock: (2 marks)

i. .....

.....

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ii. .....

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c. The below table contains different diseases: (3 marks)

1	Anthrax	3	Mastitis
2	African swine fever	4	Fowl box

So apply the diseases in the above table with their suitable animals below:

i. It attacks all lactating female animal

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ii. It attacks cattle, sheep and goats

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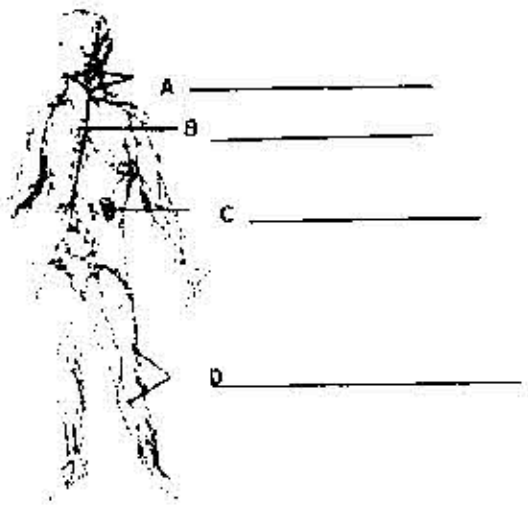
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iii. It attacks poultry

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4. The diagram below shows the lymphatic systems:



a. identify the parts labeled A, B, C and D (2 marks)

b. What does the lymphatic system consist of? (2 marks)

i. .....
.....

ii. .....
.....

iii. .....
.....

iv. .....
.....

c. Restate any two of the function of lymphatic system: (2 marks)

i. .....
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ii. .....
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5. a. Define the following terms: (2 marks)

i. Genetics

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ii. Chromosomes

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iii. Genome

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iv. Gene

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.....
.....

b. Memorize any two functions of DNA (2 mark)

i. .....
.....
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ii. .....
.....
.....

c. Describe how DNA replicates: (2 marks)

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6. a. Compare the functions of the following terms: (2 marks)

i. Nucleolus

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ii. Mitochondrion

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iii. Golgi apparatus Complex

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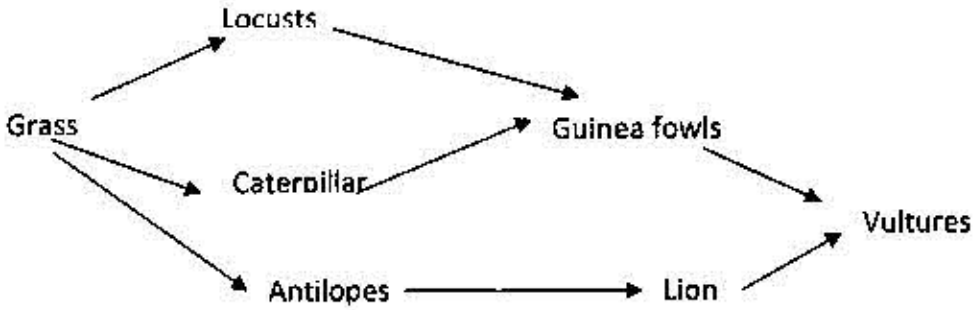
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iv. Flagellum

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7. Represents energy follow in certain ecosystem. Use it to answer the question that follow.



a. Distinguish between a food chain and a food web (2 marks)

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b. With a reason name the organisms that would have the greatest biomass and give reason for your answer (2 marks)

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c. Write the food chain in which the vultures are tertiary consumers (2 marks)

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d. State the trophic level occupied by the lions (2 marks)

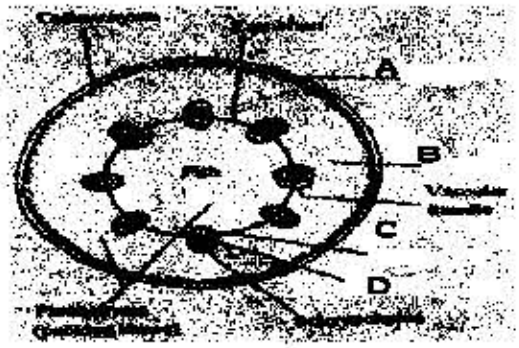
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8. a. The diagram below shows the internal structure of dicot stem



i. Create the internal structure of dicot stem represented letters A, B, C, and D (2 marks)

A. .....

B. .....

C. .....

D. .....

ii. Compare the functions of the vessels mentioned in letters C and D (2 marks)

C. .....

.....

.....

D. .....

.....

.....

iii. Analyze the role of the internal structure of a dicot stem represented by letters: (2 marks)

A.....

.....

.....

B.....

.....

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9. a. Which structures in a flower produces (2 marks)

i. The Male Gametes

.....

.....

ii. The Female Gametes

.....

.....

b. Distinguish the differences between Self pollination and cross pollination (2 marks)

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c. measure any two of the features that supports or encourage cross pollination, why reducing to chance of self pollination (2 marks)

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10. a. State branches of taxonomy begin from kingdom domain to species (2 marks)

i. Kingdom

ii. .....

iii. .....

iv. .....

v. .....

vi. .....

vii. Species

b. Explain the meaning of Taxonomy (classification) (2 marks)

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c. Describe the importance of classification of organisms (2 marks)

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.....END.....

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