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NAME: .....

ROLL No; .....

SCHOOL NAME: .....

Republic of Somaliland

Somaliland National Examination and Certification Board

FORM FOUR

EXAMINATION

Biology

June 2018

TIME: 2 HOURS

Plus 10 minutes for reading through the paper

INSTRUCTIONS TO CANDIDATES:

- This paper consists of 12 printed pages with the cover page.
- Inform the invigilator if there are any missing or extra pages.
- Answer ALL questions
- All answers must be written in the spaces provided.
- If you make a mistake, cross out the incorrect answer clearly and write your correct answer.

PART ONE: 20 MULTIPLE CHOICE QUESTIONS **[40 MARKS]**

PART TWO: 5 Structured Quostfons **[60 MARKS]**

TOTAL **[100 MARKS]**

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

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Part One Multiple choice Questions **{40 marks)**

1. Cytopfasm

a) Is Only Found in anirnai cells
b) Is important in initiating cell division
c) is the place where chromosomes are found
d) is the place where many ceil reactions occur

2. Which of the following Is **not** produced as a result of Photosynthesis

a) Oxygen
b) Glucose
c) Starch
d) Carbon dioxide

3. Whicfi of the following are necessary for photosynthesis

1. Carbon dioxide 2. Chlorophyll 3, Energy 4-Nitrogen
5, Oxygen 6, water

a) 1,2,3.4
*>) 2,3,4,5
c) 3,4,5,6
d) 1,2,3,6

4. Which of the following Vitamins can the body make for itself?

a) Vitamin A
b) Vitamin **B**
c) Vitamin C
d) Vitamin D

5. Movement of which of the following is **Not** necessary for breathing to occur,

a) Ribs
b) Sternum
c) Mouth
d) Diaphragm

6. the vertebrate brain originates from;

a) Ectoderm
b) Endoderm
c) Mesoderm
d) Both mesoderm and Ectoderm

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7. the Stage in mitosis in which the two sets of single-stranded chromosomes are moving toward the opposite poles of the spindle is called:

a) Anaphase
b) Interphase
c) Metaphase
d) Telophase

8, A chemical reaction that has a positive delta g is technically known as a(an).

a) Exergonic
b) Endorganic
c) Exothermic
d) Spontaneous

9. Which concept most completely describes the role of an organism in an ecosystem

a) Habttas
b) Niche
c) Web
d) Chemical Cycle

10 Petals have swelling called _____ at their base.

a) Pistil
b) Nectaries
c) Pedical
d) Stamen

11. Blood Group with no antigens is

a) Blood group O
b) Blood group A
c) Blood group S
d) Blood group AB

12. _____ is the relationship between two different organisms that both benefit from each other

a) Commensal ism
b) Parasitism
c) Mutuaisim
d) Symbiosis saprophytism

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13. _____ in disorder or bad functioning (malfunction of mind) of body which leads to departure of good health.

a) Disease
b) physical disease
c) Health
d) Infectious disease

14. _____ sick animals are deliberately isolated from heafth animals

a) Quarantine
b) Proper feeding
c) Sanitation
d) Calling

15. _____ is an immunity developed from antibodies or antitoxins, provided from outside of the body

a) Active immunity
b) Passive immunity
c) natural immunity
d) artificial immunity

16. _____ is the study of inheritance and how the characteristics of living things are transmitted from one generation to the next.

a) Chromosome
b) gene
c) genome
d) genetics

17. which of the following is not true about enzymes

a) enzymes are proteins
b) an enzyme can be used over and over again
c) an enzyme can catalyze any reaction
d) high temperature affects enzyme activity

18. the dental formula of an adult human being is

a) 4246 / 42*6
b) 2213 / 2213
c) 3212 / 3213
d) 2123 / 2123

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19, The DNA code for CGAtCytosine, guanine, adenine) would be transmitted from the nucleus into cytoplasm as the messenger RNA code word

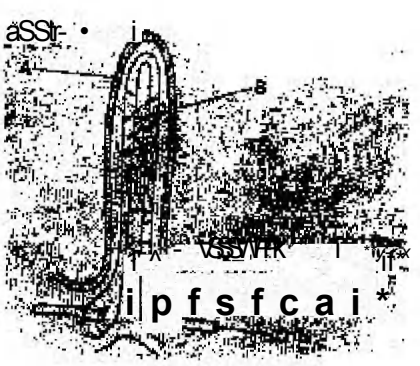
a) GTC
b) TCG
c) GAU
d) GCU

20. The elements carbon, nitrogen, oxygen and hydrogen would be found in

a) Glucose
b} Fat
c) Amino acids
d) Starch

Part Two Structural Questions (60 marks)

1. the diagram below shows the structure of a single villus.



A. Where would you expect to find this structure in the gut? (2 Marks)

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B, Name two chemicals passing through part C after a meal? (2 Marks)

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C.

i) What is part B Called? {2 Marks}

ii) Why is it Important in the villus (2 Marks)

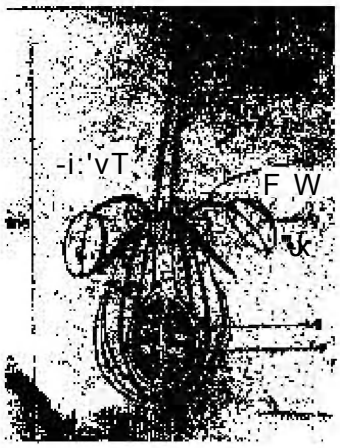
D, Name the blood Vessel connecting structure C to the iiver (2 Marks)

E. Suggest one advantage of blood going to the liver from the villus before going to the whole body, (2 Marks)

MM

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2, The drawing shows a section through a flower



a) Name the structure? labeled A----------F (6 Marks)

A._____

B. _____

C. _____

D, _____

E. _____

b) State two visible feature whicti suggest that this flower is wind poSlirsateu. {2 Marks)

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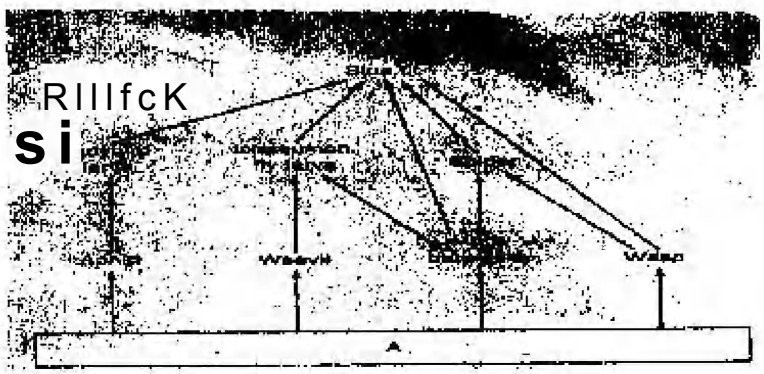
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3. The diagram shows a food web in a wood?



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&)

s) what kind of organism would be in box A? (2 Marks)

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ii) Name one secondary consumer shown in this food web (2 Marks)

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m, Make a food chain from this food web start with A? (2 Marks)

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iv) If ali the lady birds died, explain what might happen to the number of aphickj (2 Marks)

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8. Energy comes into the food web at A.

i) Where does this energy come from? (2 MarKs }

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it) How do the animals in this food web use this energy? (2 Marks)

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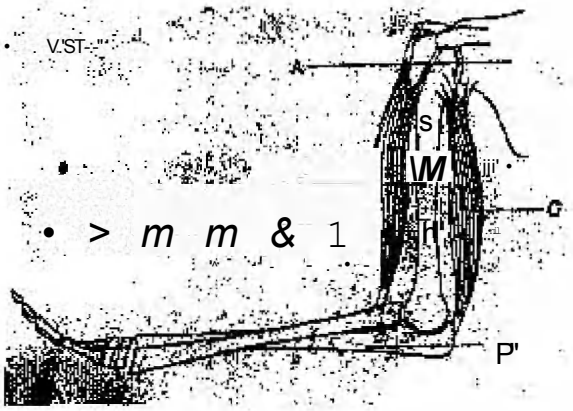
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4. The diagram shows certain bones and muscles in the arm.

a} Correctly identify the structure shown, using names chosen from the following list (4Marks)

1. Ligament	2. Shoulder blader	3 Biceps	4. Tendon
5. Ulna	6. Triceps	7. Hamerus	8, Radius,

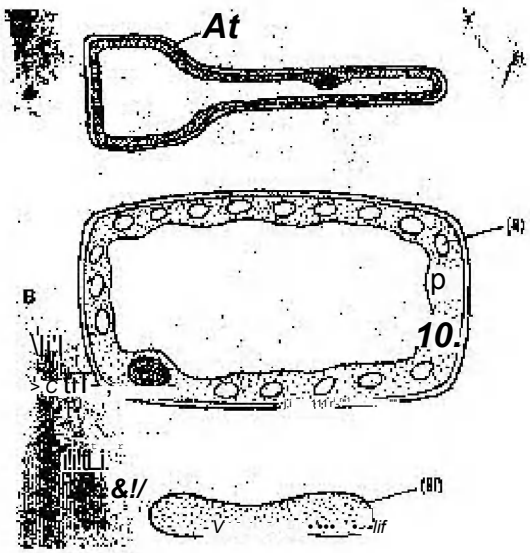


b) Describe how the muscles of the ami are used to raise it? (2 Marks)

c) Name the structure which attaches muscle to the bone? (2 Marks)

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5 The diagram below show sections of three different cells, A,B and C. they are not drawn to the seme scale



a) Name parts {3 Marks)

i) .....

?i; .....

iiij .....

b) A and B are plant cells G is an animal cell.

Give two features shown in the diagrams that support this statement. (2 Marks }

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c) State precisely where in a plant or animal you would expect to find ceils, A,8 and C. (2 Marks)

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d) State one way in which the structure af each of the cells A and B helps it to carry out its main function. (2 Marks)

e) i) Name the substances SikeJy to pass through celi A on its way to cell B in living plant? (2 Marks)

ii) Name on substance produced in celi B which is found in high concentration in cell C? (2 Marks)

a) List the seven characteristics of living Organisms (7 Marks)

b) why are protists called the simplest Organisms? (1 Marks)

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