

R&PUBL IC OF SOMALILAND

FORM FOUR EXAMS, 2018

BIOLOGY



NATIONAL EXAMINATION BOARD



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Total Score

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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]

The logo consists of a shield divided into four quadrants by a white cross. The top-left quadrant contains a red letter 'H' on a blue background, the top-right contains a blue letter 'T' on a red background, the bottom-left contains a blue letter 'T' on a red background, and the bottom-right contains a red letter 'C' on a blue background. A red ribbon banner curves around the bottom of the shield, containing the white text "Work Training & Placement Centre".



Part One Multiple choice Questions

{40 marks}

1. Cytoplasm

- a) Is Only Found in animal cells
- b) Is important in initiating cell division
- c) is the place where chromosomes are found
- d) is the place where many cell 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. Which 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
- b) 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

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) Habitat
 - b) Niche
 - c) Web
 - d) Chemical Cycle
10. Petals have swelling called _____ at their base.
- a) Pistil
 - b) Nectaries
 - c) Pedicel
 - 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) Commensalism
 - b) Parasitism
 - c) Mutualism
 - d) Symbiosis saprophytism

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 healthy 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) $\frac{2}{1} \frac{1}{1} \frac{4}{2} \frac{6}{3}$
- b) $\frac{2}{1} \frac{1}{1} \frac{2}{2} \frac{1}{3}$
- c) $\frac{2}{1} \frac{1}{1} \frac{3}{2} \frac{2}{3}$
- d) $\frac{2}{1} \frac{1}{1} \frac{2}{2} \frac{3}{3}$

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

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

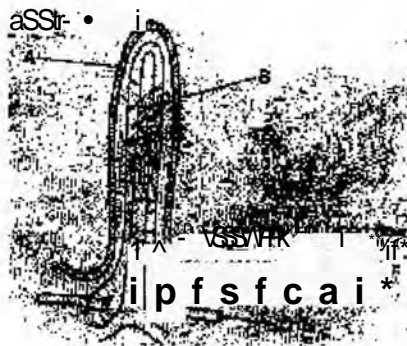
20. The elements carbon, nitrogen, oxygen and hydrogen would be found in

- 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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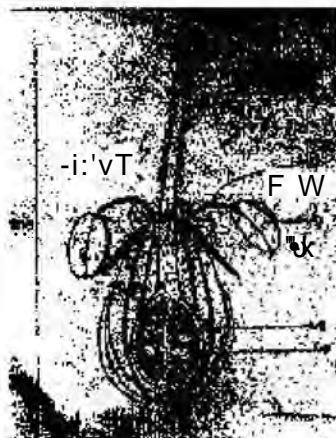
{2 Marks}

(2 Marks)

(2 Marks)

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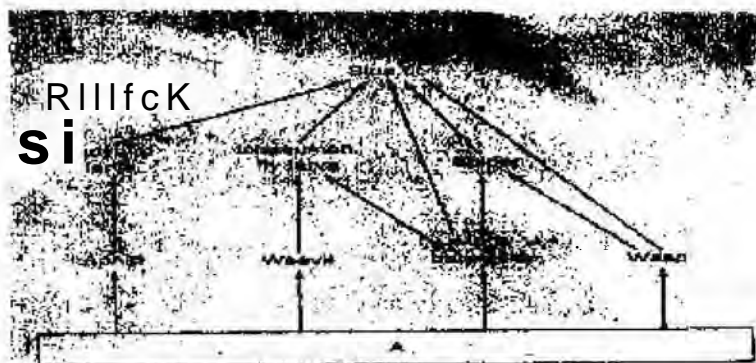
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3. The diagram shows a food web in a wood?



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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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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, |

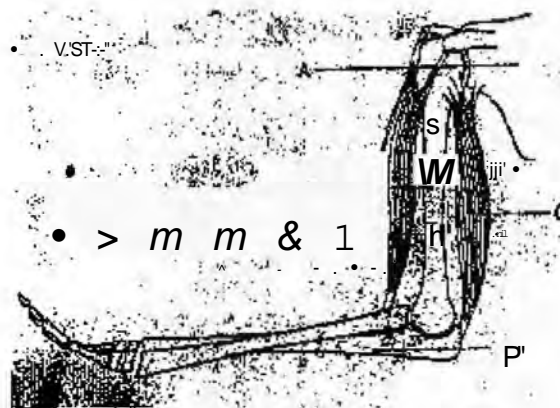
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b) Describe how the muscles of the ami are used to raise it? (2 Marks)

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

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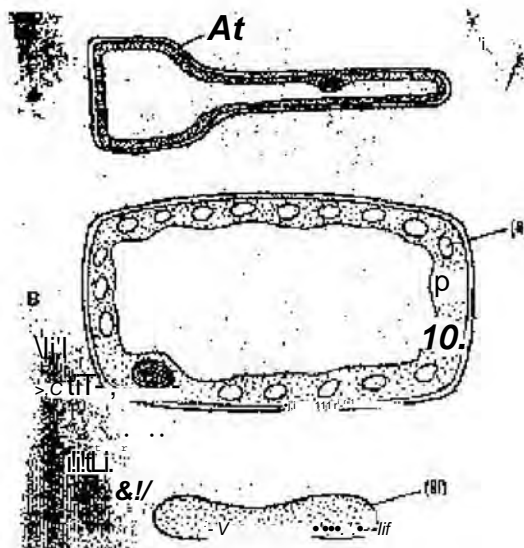
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5 The diagram below show sections of three different cells, A,B and C. they are not drawn to the same scale



a) Name parts

{3 Marks}

- i)
- ii)
- iii)

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 cells. A, B 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)

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

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

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

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

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