

**THE UNITED REPUBLIC OF TANZANIA
THE NATIONAL EXAMINATIONS COUNCIL
FORM TWO NATIONAL ASSESSMENT**

033

BIOLOGY**Time 2:30 Hours****Wednesday, 15th November 2017 a.m.****Instructions**

1. This paper consists of sections A, B and C with a total of **eleven (11)** questions.
2. Answer **all** questions in section A and B, and **one (1)** question from section C.
3. All writing must be in blue or black ink **except** drawing which must be in pencil.
4. Calculators and cellular phone are **not** allowed in the examination room.
5. Write your **Examination Number** at the top right corner of every page.

FOR EXAMINERS' USE ONLY

| QUESTION NUMBER | SCORE | EXAMINER'S INITIALS |
|-----------------|-------|---------------------|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| TOTAL | | |



1



SECTION A (30 Marks)

Answer all questions in this section.

1. For each of the items (i) - (x), choose the correct answer among the given alternatives and write its letter beside the item number in the box provided.

- (i) Which structure differentiates euglena from other members of the Kingdom Protista?

| | | |
|---------------------------|-----------------------------|--------------------------|
| A Possession of flagellum | B Possession of chloroplast | <input type="checkbox"/> |
| C Possession of antennae | D Possession of cell wall. | |

- (ii) The feeding relationship represented by the sequence of organisms; "Green plants → Grasshopper → Frog" is called

| | | |
|--------------|---------------|--------------------------|
| A Food web | B Interaction | <input type="checkbox"/> |
| C Food chain | D Pyramid. | |

- (iii) Which of the following blood group is a universal recipient?

| | | |
|-----|------|--------------------------|
| A B | B AB | <input type="checkbox"/> |
| C A | D O | |

- (iv) When the solution is mixed with Benedict's solution, the food substances that change in colour from blue to green to yellow and finally orange colouration after boiling is called

| | | |
|------------------|-----------|--------------------------|
| A starch | B protein | <input type="checkbox"/> |
| C reducing sugar | D lipids. | |

- (v) Insufficient food rich in protein to children especially infants result into nutritional deficiency disease called

| | | |
|---------------|-------------|--------------------------|
| A Marasmus | B Obesity | <input type="checkbox"/> |
| C Kwashiorkor | D Ricketts. | |

- (vi) The structure of a leaf that allows oxygen and carbon dioxide to diffuse into and out of the leaf during gaseous exchange is known as

| | | |
|-------------|-------------|--------------------------|
| A cuticle | B epidermis | <input type="checkbox"/> |
| C mesophyll | D stomata. | |

- (vii) The blood vessels which carries blood from the lungs to the heart is called

| | | |
|--------------------|---------------|--------------------------|
| A pulmonary artery | B vena cava | <input type="checkbox"/> |
| C pulmonary vein | D renal vein. | |

- (viii) Which one of the following is the list of animal tissues?

| | | |
|--------------------------|--------------------------|--------------------------|
| A Muscle, blood and bone | B Brain, bone and liver | <input type="checkbox"/> |
| C Skin, heart and brain | D Muscle, liver and skin | |

- (ix) What does the concept of good health implies?
 A A state of physical, sexual and mental fitness.
 B Being physically, mentally and socially fit.
 C A state of family well being.
 D Reproductive health and family care.

- (x) First Aid given to a victim of electric shock is meant to
 A keep the victim moving.
 B send the patient to the hospital.
 C provide the victim with fluids.
 D lie down with his/her feet higher than head.

2. For each of the items (i) - (x), write **TRUE** if a statement is correct or **FALSE** if a statement is not correct in a space provided.

- (i) Botany is the study of animals.....
- (ii) Gaseous exchange in mammals takes place in the nose and mouth.....
- (iii) One enzyme can act on several food substances.....
- (iv) During inhalation the ribs move upwards and outwards.....
- (v) Anemia is a condition in which the patient has few erythrocytes.....
- (vi) Landfill is a way of disposing domestic wastes.....
- (vii) Amylase is an enzyme which acts on protein.....
- (viii) A consumer in ecosystem produces their own food.....
- (ix) Syphilis is a communicable disease.....
- (x) All bacteria are harmful to man.....

3. Match the phrase in List A with responses in List B by writing the letter of the correct response from List B below the item number of List A in a table provided.

| List A | List B |
|---|---------------------------------|
| (i) A disease transmitted through sexual intercourse and treated by antibiotics. | A Cholera B Typhoid |
| (ii) A viral disease transmitted through sexual intercourse. | C AIDS |
| (iii) An disease characterized by fever and coughing up blood sputum. | D Malaria E Syphilis |
| (iv) A disease spread by an agent known as anopheles. | F Common cold |
| (v) A disease caused by lack of proper hygiene and victim had a stool of rice –water colouration. | G Schistosoma H Tuberculosis |

ANSWER

| List A | (i) | (ii) | (iii) | (iv) | (v) |
|--------|-----|------|-------|------|-----|
| List B | | | | | |

4. Complete each of the following statements by writing the correct answer in the answer sheet provided.

- (i) A taxonomic rank of organisms which interbreed freely and give rise to viable offspring are known as
- (ii) The type of classification which is based on few observed features is called.....
- (iii) The highest rank of classification is known as.....
- (iv) The process of sorting living things into groups is called.....
- (v) The process of giving organisms scientific names is known as.....

SECTION B (50 Marks)

Answer all questions in this section.

5. (a) Outline seven steps of scientific process used by scientists in the scientific investigation.

- (i)
- (ii)
- (iii)

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- (iv)
- (v)
- (vi)
- (vii)

(b) Why hand lens is useful in studying Biology?

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.....
.....
.....

6. (a) Define the following terms:

(i) Parasite

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.....
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(ii) Host

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.....
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.....

(iii) Community

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.....
.....

(b) Give two examples for each of the following group of parasitic organism:

(i) Endoparasite

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.....

(ii) Ectoparasite

.....
.....

7. (a) State the meaning of the term "tissue" as used in Biology.

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(b) Arrange the following terms in a sequential order from simple to complexity of cell differentiation.

Tissue, Organism, Organ, Cell and system.

.....

(c) Outline two differences between plant cell and animal cell.

| S/N | Animal cell | Plant cell |
|------|----------------|----------------|
| (i) | | |
| (ii) | | |

8. **Figure 1** represents a part of the digestive system of a mammal. Study it carefully then, answer the questions that follow:

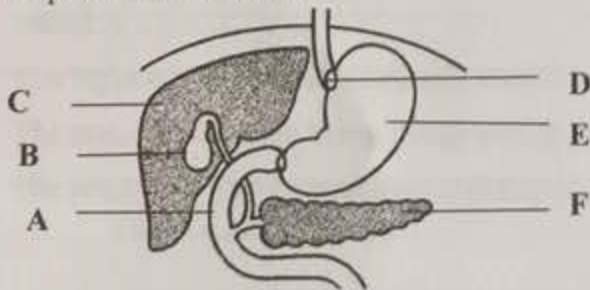


Figure 1

(a) Name the parts labelled with letters A, B, C, D, E and F.

A
 B
 C
 D

E

F

(b) Name two enzymes secreted by the part labelled with letter F.

(i)

(ii)

(c) State the role of any one of the enzyme secreted by the part labeled F.

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9. (a) Mention three structures used for gaseous exchange in land plants.

(i)

(ii)

(iii)

(b) Briefly explain how the structure of a leaf is adapted to allow rapid gaseous exchange.

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.....
.....

(c) Name the product of anaerobic respiration in human being muscles.

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SECTION C (20 Marks)

Answer one (1) question from this section.

- 10. Describe how you can provide First Aid to a person who has been "beaten by a snake" and the one who has "fainted during the parade ground".

- 11. With the aid of a diagram, describe the structure of the types of blood cells and give one function for each blood cell.

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