

PRESIDENT'S OFFICE

REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

SINGIDA REGION

FORM FOUR MOCK EXAMINATIONS- 2023

033/1 BIOLOGY MARKING SCHEME JUNE, 2023**1. (@1mark)**

Questions	i.	ii.	iii.	iv.	v.	vi.	vii.	viii.	ix.	x.
Answers	C	C	B	A	C	A	C	C	E	D

2. Answers to matching items (@1mark)

Question	i.	ii.	iii.	iv.	v.	vi.	vii.
Answers	I		A	E	F	C	G

SECTION B (54 MARKS)**3. (a)**

- (i) This is because the nasal passage is covered by mucus which prevents smell receptors from detecting smell **(1.5 marks)**
- (ii) Because under the tongue taste buds (receptors) are absent hence no detection of smell **(1.5 marks)**
- (b) (i) the process is geotropism **(0.5 marks)**
Geotropism is the movement (growth response) of the plant on the influence of gravity **(1 mark)**

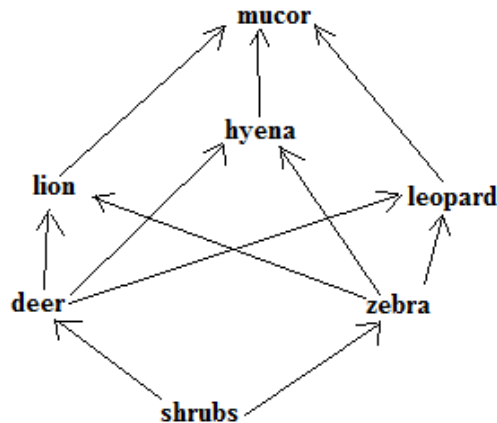
(ii). In most plants, roots grow downward with gravity while shoots grow upward against gravity. Within hours, the shoot of a plant placed on its side will usually bend upward and the roots will bend downward as the plant reorients its direction of growth in response to gravity. **(1.5 marks)**

4. (a)

- i. Three types of muscles are **(0.5 marks @ total 1.5 marks)**
- Smooth muscles
 - Cardiac muscles
 - Skeletal muscles
- ii. It's cardiac muscles **(0.5 marks)**
This is because it works under autonomic nervous system to control heart beat rate throughout the life span and never fatigue. **(1 marks)**
- (b)
- i. A muscle cramp is an involuntary and forcibly contraction of muscle associates with pain which caused by the accumulation of lactic acid in muscles **(1 mark)**
- ii. Lack of oxygen in the muscles (inadequate oxygenation of muscles) which caused accumulation of lactic acid after anaerobic respiration in muscles Severe diarrhea or persistent vomiting **(3 mark)**
Excessive loss of salt
- iii. Prevention of muscle cramps
- Rapid breathing while doing exercises
 - Stretching the muscles
 - The use of sprays to increase aeration in muscles
- (Any two points, @ 1 marks total 2 mark)**

5. (a) answers
- This because it is made up by more than one food chain (a network of food chain) **(1 mark)**
 - This is because there is energy loss as you move from one trophic level to another (from the bottom to the top) **(1 mark)**
 - Yes, this is because it helps to keep the population in balance hence to keep ecosystem health **(1 mark)**

(b) The food web is as follows



Neatness 1 mark

Clear arrangement and arrows 2 marks

Total 3 marks

c) mucor

Total 3 marks

6. (a)
- Differences between endocrine and exocrine system are:

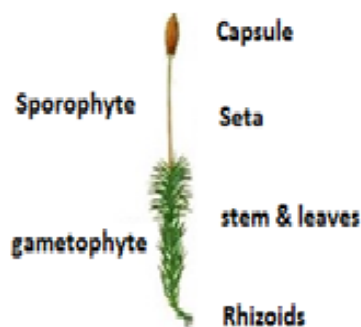
	Endocrine system	Exocrine system
I.	Involves secretion of chemical substance into blood stream called hormones	- No secretion of chemical into blood stream - They are ductless
II.	Have ducts through which homes are secreted	- Characterized by absence of glands
III.	Characterized by the presence of gland that secrets hormones	

Any two points, @ 0.5marks total 1 mark

- This is because it controls the functioning of all other gland **(0.5marks)**

(b)

- The diagram of moss plant



Neatness 1 mark

Labeling 1 mark

Total 2 marks

(ii).

specimen	kingdom	phylum	class
Grasshopper	Animalia	Arthropoda	Insecta
Liver fluke	Animalia	Platyhelminthes	Trematoda
Rat	Animalia	Chordata	Mammalia

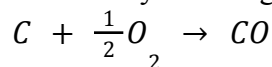
(@0.5 marks)

7. (a) Reasons are

- (i) In nose there is hairs that traps dusts and microorganism entering with air
- (ii) The nose humidity intake air than in mouth
- (iii) The nose bursts oxygen intake than in mouth

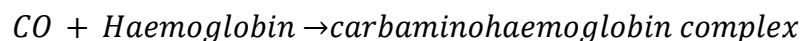
Any two points, @ 1 mark total 2 marks

(b) Charcoal burns in limited supply of oxygen to form carbon monoxide which combines with haemoglobin in blood to form complex called which limited supply of oxygen in the body resulting to shortage of oxygen in the body resulting to death.



(2.5 marks)

Further more



(c) This is because:

- (i) Higher number of ATPs are produced
- (ii) Releases by products that do not affect functioning of the body
- (iii) Water released during the process is useful to the body

Any two points, @ 1 mark total 2 marks

8. Answers

(a) Diffusion is the movement of particles from an area of higher concentration to one of low concentration. **(1 mark)**

Osmosis is the process by which water molecules move from a weak solution to a strong solution through semi permeable membrane. **(1 mark)**

(b) Because the need no energy to take place **(1 mark)**

(c)

- (i) Water moves from the cell to the concentrated solution as illustration of osmosis resulting to shrinking of the cell **(1 marks)**
- (ii) In dilute solution water moves from the solution to the red blood cell by osmosis which creates pressure inside a cell making it to burst **(1 mark)**

(d) (i) Hormones

Heredity

Diseases

Nutrition

Socioeconomic (@1.5marks) total 3 marks

(iii). Cell division

Cell enlargement (@0.5mark) total 1mark

9. (a) Answers

- (i) Because they have high concentration of nitrogen atom (1 marks)
- (ii) According to their toxicity is as follows: Ammonia > urea > uric acid (1 mark)
- (iii) Could die due to dehydration this is because ammonia is highly soluble hence needs high amount of water to be neutralized (1 mark)
- (iv) Excretory organs are
 - Skin excretes excess water, urea
 - Lungs excretes excess water and carbon dioxide
 - Kidney excretes excess water, urea, small amount of ammonia, uric acid
 - Liver for Deamination and detoxification

Any three points 1 mark @ total 3 points

(b) Answer

- i) This in order to neutralize the intake salt in osmotic fluids (1 marks)
- ii) Because ocean water contains a lot of salt that increase the content of solute in body osmotic environment (1 mark)
- iii) The uptake of water from the loop of Henle will not take place hence regulation of water content in the body will be difficult (1 mark)

Section C (30 marks)

Required to answer two questions

10. Immunity – Is the ability of the body to resist infections and disease. Immunity builds the body's defense against infectious diseases

The following are the ways through which immunity can be affected

- i. Lack of a proper balanced diet (poor nutrition)
- ii. Inhibitory effects of drug and chemical to the white blood cells.
- iii. In ability of the body to produce antibodies and the white blood cells
- iv. Lack of vaccination/immunization
- v. Incomplete treatment
- vi. Genetic disorders
- vii. Extreme stress
- viii. Damage to the skin.
- ix. Destruction of immune system by pathogen e.g. HIV (Human immunodeficiency Virus.)

Introduction 1.5 marks

By providing the description, meaning or any relevant information on immunity

Main body 12 marks

Mention and explaining any six factors

Mentioning @ point carries 1 mark total 6 marks

Conclusion 1.5 marks

Total 15 marks

11. (a) Reasons to the failure to eradicate cholera in African countries

- ☐ Most citizens in Africa do not use clean and safe water for drinking
- ☐ Most citizens in African countries are living unhygienic conditions

- ☐ The sewage transportation systems in the urban are problem especially during rain season, most these systems are blocked.
 - ☐ The improper uses of pit latrines in rural area
 - ☐ Shortage of knowledge about personal and community hygiene.
- (b) the disease can be eradicated successfully by the following ways
- ☐ Proper preparation of food in hygienic condition
 - ☐ Boil and filter the drinking water and keep it in cleaned container.
 - ☐ Wash hand with cleaned water and soap after visiting toilets
 - ☐ Eating hot food
 - ☐ Wash fruits with warm water to eliminate contaminations.

Introduction 1.5 marks

By providing the description, meaning or any relevant information on cholera

Main body 12 marks

Mention and explaining any six points

Mentioning @ point carries 1 mark total 6 marks

Conclusion 1.5 marks

Total 15 marks

12. Drug abuse-is the repeated and excessive use of drugs

Causes of drug abuse (4 Points)

- Family/relationship problems
- Work pressure
- Genes
- Loneliness

Prevention of drug abuse

- Avoid temptations and peer pressure
- Seek help for mental illness
- Examine the risk factors
- Keep a well-balanced diet
- Understand how substance abuse develop
- Live according to the level of economic status

Introduction 2 marks

By providing the description, meaning or any relevant information on cholera

Mentioning @ point carries 1-mark total 5 marks in causes

Mentioning @ point carries 1-mark total 6 marks in preventions

Conclusion 2 marks

Total 15 marks