Name: …… …….

Lake side secondary school masese

MID TERM II EXAMINATIONS

S.2 BIOLOGY

(THEORY)

1 hours 30 minutes

INSTRUCTIONS:

- ✓ *Attempt **ALL** questions*
- ✓ *Make your answers **Brief** and **Precise**. Avoid unnecessary information*
- ✓ *All drawings must be made using a **Sharp Pencil***
- ✓ *Be **Neat** and **Organised** to avoid loss of marks*

SECTION A (30 MARKS)

1. The president of the Republic of Uganda has on several occasions been quoted emphasizing the relevance of scientists in the growth and development of our country; and general well-being of Ugandans at large. As a BIOLOGIST, state if each of the following statements are **TRUE** or **FALSE** ***(08 marks)***

(a) Biology is the study of living and non-living things ……

(b) COVID-19 is mainly spread through air ……..

(c) Nomenclature is a sub-set of Taxonomy ……

(d) Microorganisms which cause diseases are all parasites ……..

(e) All bacteria are pathogens ……

(f) Plant cells also contain Mitochondria ……..

(g) *Mimosa pudica* belongs to the genus Pudica ……

(h) Xylem Vessels are specialized plant cells that transport manufactured food ……

(i) The cell membrane allows free entry and exit of all materials in and out of the cell ……...

(j) Veins and arteries are organs ……..

2.

(a) Nakaye Wisdom was seeking an admission in S.1 at Rubaga Girls School. She was assigned to match the **pathogens** in set A to their respective **diseases** in se B. Given that Wisdom scored full marks in the test, show how she worked out the assignment. ***(Use a pencil)***

(05 marks)

SET A	**SET B**
Malaria	Virus
Measles	Anopheles Mosquito
AIDS	Bacteria
COVID-19	Plasmodium
Cassava Mosaic	HIV
	Fungus
	Corona Virus

(b) The health minister was addressing the school about the spread of the Corona Virus in human populations. After greeting the assembly, she went ahead to elaborate the ways through which the virus spreads. Using the space below summarise the key points of the minister's speech for the day scholars who missed the assembly. ***(05 marks)***

……

……

……

……

……

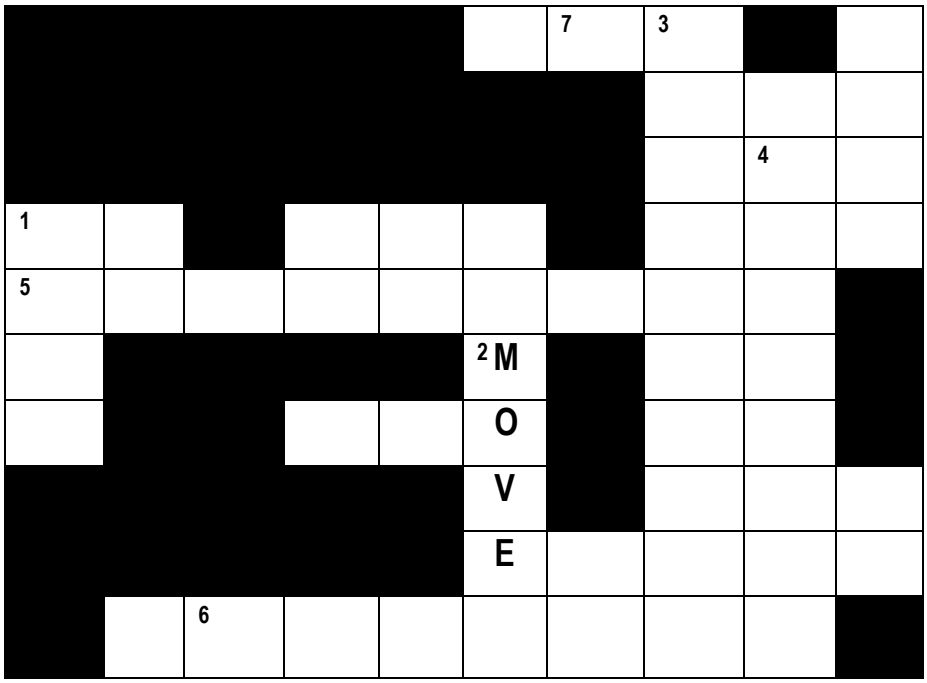
……

……

3.

(a) The crossword puzzle below is about life processes; it is to be solved by filling in **Downwards**, **across** or **diagonally** following the instructing statements outlined just below the puzzle. At the end of each statement in brackets is the number of letters that make up the correct word corresponding to the number in the puzzle

(You are advised to use a sharp pencil) ***(06 marks)***



Fill in Downwards

1- Most girls in our class are bigger than they were last term**(4)**

2- **They all put up their hands when the teacher asked the opening question(4)**

3- She didn't listen to her parents, now she is pregnant**(9)**

4- All ballers where sweating profusely when the match was about to end**(7)**

Fill in Across

5- Why did you run when you saw the dog coming?**(7)**

6- This is the work of Mitochondria in a specialized cell**(7)**

Fill in Diagonally

7- You planted then in shade, there wasn't enough sunlight for photosynthesis**(4)**

(b) Both plants and animals are living things, how do they differ? ***(04 marks)***

……

……

……

……

……

……

SECTION B: (30 MARKS)

4.

(a) The inter-school debate competitions are set to take place in the course of this term; and the motion is already spelt out as follows:

"BIOLOGY SHOULD BE SCRAPED OFF THE NEW LOWER SECONDARY CURRICULLUM"

Given that your school stands on the opposers' side of the debate; spell out the key points you would give as the school representative. Give examples where necessary. ***(10 marks)***

……

……

……

……

……

……

……

……

……

……

……

……

……

……

(b) During a practical session in the lab, the teacher of Biology required S.6 students to draw and label the reproductive system of a rat. State any Five (5) aspects the teacher must look out for when marking the assignment. ***(05 marks)***

……

……

……

……

……

……

……

……

5. In multicellular organisms; we all understand that not all cells are of the same size and shape, some cells adopt unique structural features to enable them perform particular functions effectively.

(a) In the space below, outline the different examples of specialized cells (may be from plants or animals or both); stating the specific role played by each in the body ***(10 marks)***

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

(b) Why is it necessary to classify organisms? ***(05 marks)***

……

……

……

……

……

……

……

THE END

BIOS means LIFE

GUIDE (x/60)

1.

(a) False

(b) False

(c) True

(d) True

(e) False

(f) True

(g) False

(h) False

(i) False

(j) True ***01 mk@ = 10mks***

2.

(a)

SET A	**SET B**
Malaria	Plasmodium
Measles	Virus
AIDS	HIV
COVID-19	Corona Virus
Cassava Mosaic	Virus

01 mk@ = 05 mks

(b)

Kissing an infected person

Inhaling aerosols (Coughs, sneezes) from an infected person

Touching a contaminated surface and then touch ones mouth, eyes and/or nose

01mk for transmission = 03, 01mk infected person, 01mk for soft parts = 05

Reject Kissing alone, being in crowds, touching soft parts, Nod distancing

3.

(a)

Downwards

1- Grow

2- Move

3- Reproduce

4- Excrete

Across

5- Respond

6- Respire

Diagonally

7- Feed ***01mk@ = 6***

(b)

Plants	**Animals**
Make their own food/nutrients	Feed on other organisms (Heterotrophic)
Move only by parts (movement)	Move by parts or whole body
Contain chlorophyll in their cells	Their cells lack chlorophyll
Have cells surrounded by cell walls	Cells lack cell walls
Growth is limited only to tips of the shoot and roots	Growth occurs all over the body
Plants grow continuously throughout life	Animals grow up to maturity beyond which no further growth occurs
Respond slowly to stimuli	Respond rapidly to changes in environment

Accept statements; Deny one-sided statements ***01@ Any 4***

4.

(a) Biology should not be scraped off because of the following reasons

- ✓ Biology guides us on what to eat, depending on age, activity etc.
- ✓ Knowledge of biology is important for environmental conservation, to avoid extinction
- ✓ It leads us to important professions like Teachers, doctors etc, to earn money
- ✓ Biology equips us with knowledge about common diseases and how to prevent them, like COVID-19, AIDS ect

- ✓ The subject also addresses the body changes we undergo during growth and how to deal with them especially adolescence ***02@ = 10***

(b) Tittle; Neatness/should be neat; Size of the drawing; Outline; Sharpness of the pencil etc.

01@ Any 5

5.

(a)

Example	*Function*
Animal cells	
Red blood cells	*Carry oxygen around the body (and some carbon dioxide)*
White blood cells	*Defend the body against infections*
Nerve cells (neurons)	*Transmit nerve impulses in the body*
Sperm cell	*Fuses with ovum to form a zygote during sexual reproduction*
Ovum (Pl. Ova)	*Fuses with a sperm to form a zygote during sexual reproduction*
Muscle cell (Muscle fibre)	*For movement of body parts*
Specialized plant cells	
Root hair cells	*Absorption of water and mineral salts*
Palisade cells	*Carry out photosynthesis. They contain numerous chloroplasts for trapping sunlight energy for photosynthesis*
Parenchyma cells	*For storage of food. Also provide mechanical support to herbaceous stems*
Epidermal cells	*Protect inner parts of the plant. They have no chlorophyll*
Xylem vessels	*Transport water and mineral salts. They are elongated and hollow hence called vessels*
Sieve tube elements	*Transport manufactured food in the phloem*
Guard cells	*Control opening and closure of stomata*

01@ Any 11

(b)

- ✓ For easy identification of organisms belonging to the same taxonomic group.
- ✓ It becomes easier to study organisms as all members in a group resemble.
- ✓ Classification involves use of scientific names which prevents confusion due to use of local names from different areas.
- ✓ It enables scientists to identify the evolutionary relationships among organisms.

01@ = 4