

LIFE SCIENCES SECOND TERM WORK 2020.

I hope I find you well. My name is Mr S. Makuwaza replacing mam Fourie who went on retirement at the end of the first term.

Due to the corona virus pandemic schools will remain closed until further notice. However, schools' 2nd term was supposed to commence on 2020/03/31. As a result of this unforeseen predicament schools remain closed.

Learners are therefore urged to carry out studies in the comfort of their homes so that we try to keep up with the pace of our Life Sciences syllabus.

You can also make use of videos obtainable on line for different topics in term 2.

Below is the action plan that you should follow to study whilst we are still on lock down. At the end of each section I provide question that you should answer. This is compulsory to all learners. Please strictly stick to the dates provided. Answer questions in your class work exercise books

1. 31/03 to 03/04 (4 days)

Topic: Genetics and inheritance

(a) **Dihybrid crosses.** Study the power point notes I provided and your text book on dihybrid crosses and carefully note the following:

- State the Mendel's Principle of independent assortment.
- Presentation of a dihybrid cross especial how to obtain the gametes involved. and to determine the ratios of genotypes and phenotypes.
- Answer the multiple choice questions at the end of the notes.
- Answer the three questions provided on dihybrid (its compulsory).

(b) Genetic lineage/pedigree

- What is its function.
- Interpretation of genetic lineage/pedigree diagrams.

2. 06/04 to 09/04 (4 days)

(a) Mutations

- Define mutation
- Effects of mutation
- Contribution to variations
- Define gene mutation
- Define chromosomal mutations
- Describe how mutations lead to genetic disorders
 - i. Haemophilia

- ii. Colour blindness
- iii. Down syndrome.

(b) Genetic Engineering

- Define genetic engineering.
- Sources and uses of stem cells.
- Outline the process genetically modifying an organism.
- State the benefits of genetic modification.
- Describe cloning.
- State the benefits of cloning.

(c) Paternity testing

- The role of blood grouping and DNA profiling in paternity testing

(d) Genetic links

- mtDNA use in tracing female ancestry.

3. 14/04 to 17/04 (4 days)

THE HUMAN NERVOUS SYSTEM

(a) Components of the nervous system

- State the two components involved in responding to stimuli.

(b) Why is there need for the nervous system?

(c) Central nervous system(What is it made up of and what protects it)

- i. The brain-location and the functions of these parts
 - Cerebrum
 - Cerebellum
 - Corpus callosum
 - Medulla oblongata

- li. Spinal cord

- Structure and function

(d) Peripheral nervous system

- What is it made up of?
- State its location and functions

(e) Autonomic nervous system

- What is it made up of?
- State its location and functions

(f) The structure and function of a nerve

- State the functions of sensory and motor neurons
- Draw and label the parts of a sensory and motor neurons
- In each state the functions of the following parts
 - (i) Nucleus
 - (ii) Cell body
 - (iii) Cytoplasm
 - (iv) Myelin sheath
 - (v) Axon
 - (vi) Dendrites

4. 20/04 to 24/04 (5 days) Study the notes provided

(a) REFLEX ARC

- Define reflex arc
- Define reflex action
- Draw a reflex arc and label
 - i. Receptor
 - ii. Sensory neuron
 - iii. Dorsal root of spinal nerve
 - iv. Spinal cord
 - v. Interneuron/connector neuron
 - vi. Motor neuron
 - vii. Ventral root of the spinal nerve
 - viii. Effector
- State the function each of the parts stated above
- State the function of a reflex action
- What is the significance of a reflex action
- What is the significance of synapses

(b) Disorders of the CNS

- Disorders
 - i. Alzheimer's disease
 - ii. Multiple choice
- For each of the disorders find its causes and its symptoms.

5. 28/04 to 30/04 (3days) study the notes provided

RECEPTORS

(a) Human Eye

- Draw and label the human eye
- State the functions of the following parts
 - i. Sclera
 - ii. Cornea
 - iii. Choroid

- iv. Ciliary body
- v. Suspensory ligaments
- vi. Lens
- vii. Iris
- viii. Retina
- ix. Blind spot
- x. Optic nerve
- xi. Aqueous humour
- xii. Vitreous humour
- What is binocular vision and its function
- Describe changes that occur during
 - i. Accommodation(near and far vision)
 - ii. Papillary mechanism
- Nature and treatment of visual defects
 - i. Short- sightedness
 - ii. Long- sightedness
 - iii. Astigmatism
 - iv. Cataract

6. 04/05 to 08/05 (5 days)

(b) HUMAN EAR

- Study structure and functions different parts of the ear.
- Functions of the human ear
 - i. describe hearing
 - ii. describe balance
- hearing defects
 - i. middle ear infection
 - ii. deafness

Find causes and treatment for the hearing defects mentioned above