

## **FORM FOUR WORK**

### **14.0.0 GENETICS**

#### **14.1.0 Specific Objectives**

By the end of the topic, the learner should be able to:

- a) Distinguish between continuous and discontinuous variations
- b) Describe the structure and properties of chromosomes
- c) State the first law of inheritance and describe Mendel's work
- d) Construct and use punnet square/checker board
- e) Distinguish between  $F_1$  and  $F_2$  generations, genotype and phenotype, haploidy and diploidy, homozygosity and heterozygosity, dominance and recessiveness, linkage and sex linkage, mutations and mutagens
- f) Predict and explain the inheritance of the ABO blood groups and Rhesus (Rh) factor
- g) State examples of genetically inherited disorders
- h) Explain causes of chromosomal mutations
- i) Explain the practical application of genetics.

### **15.0.0 EVOLUTION**

#### **15.1.0 Specific Objectives**

By the end of the topic, the learner should be able to:

- a) Explain the meaning of evolution and the current concepts of evolution
- b) Describe the struggle for existence and survival for the fittest
- c) Describe the evidences for organic evolution
- d) Explain resistance to antibiotics, fungicides and pesticides.

## **16.0.0 RECEPTION, RESPONSE AND COORDINATION IN PLANTS AND ANIMALS**

### **16.1.0 Specific Objectives**

By the end of the topic, the learner should be able to:

- a) Define irritability, stimulus and response
- b) Explain differences between tactic and tropic responses and their survival values
- c) Explain the production of plant hormones and their effects on tropisms (growth responses)
- d) Relate the structure of the mammalian nervous system to its functions
- e) Distinguish between simple and conditioned reflex actions
- l) Explain the role of endocrine system in humans
- g) State the effects of drug abuse on the human health
- h) Relate structure to function of the human ear and eye
- i) Explain defects of the eye and ear and their corrections.

## **17.0.0 SUPPORT AND MOVEMENT IN PLANTS AND ANIMALS**

### **17.1.0 Specific Objectives**

By the end of the topic, the learner should be able to:

- a) Explain the necessity of support and movement in animals and plants
- b) Describe the arrangement and the role of supporting tissues in young and old plants
- c) List functions of the exo and endo-skeletons
- d) Describe locomotion in a named finned fish
- e) Identify the bones of the axial and appendicular skeleton in a mammal
- f) Describe the structure and functions of different types of joints in a mammal and explain how muscles bring about movement
- g) Distinguish between the different types of muscles, their locations and functions.