**PRESIDENT’S OFFICE, REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**

**SCHEME OF WORK**

**Name of teacher: Name of School:**

**Year: 2022 Term: 1 & 2**

**Class/Stream: FORM FOUR Subject: BIOLOGY**

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| **MAIN COMPETENCE** | **SPECIFIC COMPETENCE** | **TEACHING**  **ACTIVITIES** | **MONTH** | **WEEK** | **PERIOD** | **REFERENCE** | **TEACHING/LEARNING TOOLS** | **ASSESSMENT TOOLS** | **REMARKS** |
| **GROWTH** | **Concept of growth.** | * Through questions and answers, preparing the students to discuss the meaning of growth and its importance and mention internal and external factors affecting the rate of growth in plants and animals. * Making clarification and summary. | **JANUARY** | 3RD | 08 | *J****. M. Mwaniki& G.G. Geoffrey (2009).Fundamentals of biology, form four student book*.Dar-es-salaam:Longhorn publishers.**  **SCSU&MoEVT-Zanzibar(2010).*Biology for secondary schools form 4*.Dar-es-salaam:Oxford University Press(T) Ltd** | Written document on the concept of growth. | Exercise  Homework  Classwork  Quiz  Test  Assignment |  |
| **Mitosis and growth** | * Using the chart/diagram showing the stages of mitosis, preparing the students through questions and answers method to explain the meaning of mitosis and its importance in growth and illustrate stages of mitosis. | 4TH | Chart/diagram showing the stages of mitosis. | Exercise |  |
| **Growth and developmental stages in human**. | * Using the chart showing stages of human growth from infancy to old age,preparing the students through questions and answers method to discuss and explain the stages of human post-natal growth and development physiological,psychological and behavioral changes associated with growth and development. | 16 | Chart showing stages of human growth from infancy to old age. | Homework |  |
| **Growth in flowering plants** | * Preparing students to brainstorm on the meaning of germination and outline changes which occur during seed germination through questions and answers method. * Using a bean seedling preparing the students to investigate conditions necessary for seed germination. * Preparing the students in groups to carry out practical activities to demonstrate epigeal and hypogeal germination | **FEBRUARY** | 1ST  TO  4TH | A germinating bean and maize seedlings | Classwork |  |
| **GENETICS** | **Concept of genetics** | * Through questions and answers method preparing the students to discuss on the meaning of genetics and common terms used in genetics. * Making clarification and summary. | **MARCH** | 1ST | 04 | Documents on genetics containing common terms used in genetics | Quiz |  |
| **GENETICS** | **Genetic materials** | * Using pictures/diagrams showing the structure of a DNA and RNA, preparing the students through questions and answers method to explain the concept of genetic material,describe structure and composition of DNA and RNA and their differences. | **MARCH** | 2ND | 04 | *J****. M. Mwaniki& G.G. Geoffrey (2009).Fundamentals of biology, form four student book*.Dar-es-salaam:Longhorn publishers.**  **SCSU&MoEVT-Zanzibar(2010).*Biology for secondary schools form 4*.Dar-es-salaam:Oxford University Press(T) Ltd** | Pictures/diagrams showing the structure of a DNA and RNA. | Exercise |  |
| **Principles of inheritance.** | * Using variety of worked examples, preparing the students through questions and answers method to explain the concept of inheritance, state Mendel’s first law of inheritance, illustrate monohybrid cross and interpret their results of crosses and ratios and patterns of inheritance that follow Mendel’s First Law of Inheritance. * Making conclusion and summary. | 3RD | 08 | Chart of worked examples on  monohybrid crosses and their results of crosses and ratios. | Homework  Classwork |  |
| 4TH |
| **Non-Mendelian Inheritance.** | * Using different pictures and worked examples, preparing the students through questions and answers method to explain the concept of incomplete dominance and codorminance and illustrate patterns of Inheritance that deviates from Mendel’s First Law of Inheritance. | Pictures and worked examples on the concept of incomplete dominance and codominance | Quiz |  |
| **Sex Determination and Inheritance**. | * Using genetic diagrams preparing the students to describe the mechanism of sex determination and inheritance. * Preparing the students in groups to discuss and explain the concepts of sex linked,sex limited and sex influenced characters and the consequences of sex preference and sex selection.   Making clarification and summary. | 08 | Documents on Sex Determination and Inheritance | Test |  |
| **APRIL** | 1ST |
| **Mid-term assessment (11/04/2022 - 14/04/2022)**  **Mid-term break (15/04/2022 - 24/04/2022)** | | | | | | | | |
| **Variation among organisms.** | * Using pictures and documents on the concept of variation among organisms, preparing the students to discuss the meaning of variations,continuous and discontinuous variation and their differences and causes. * Preparing the students to present their findings and make clarification. |  | 4TH | 04 |  | Pictures and documents on the concept of variation | Exercise |  |
|  | **Genetic disorders.** | * Using the documents on genetic disorders, preparing the students to discuss in groups on the meaning of genetic disorders with examples, their causes and effects. * Preparing students’ presentation of their findings, making clarification and summary | **MAY** | 1ST  TO  2ND | 08 | *J****. M. Mwaniki& G.G. Geoffrey (2009).Fundamentals of biology, form four student book*.Dar-es-salaam:Longhorn publishers.**  **SCSU&MoEVT-Zanzibar(2010).*Biology for secondary schools form 4*.Dar-es-salaam:Oxford University Press(T) Ltd** | Documents on genetic disorders | Homework |  |
| **Application of genetics** | * Through questions and answers method, preparing the students to discuss and explain the application of genetics in everyday life and the importance of genetics in biological science and related fields. * Making conclusion and a summary of the important points. | 3RD | 04 | Documents on applications of genetics | Classwork |  |
| **CLASSIFICATION OF LIVING THINGS** | **Kingdom Animalia.** | * Using a variety of animals, preparing the students to discuss in groups on the general and distinctive features and the phyla of the kingdom animalia. * Leading students’ presentation of their findings and make clarification. | 4TH | 12 | Variety of animals. | Quiz |  |
| **Phylum Platyhlminthes** | * Using a variety of organisms under phylum platyhelminthes, preparing the students to discuss in groups on the general and distinctive features of the phylum platyhelminthes, describe the structure of organisms under the phylum platyhelminthes, advantages and disadvantages of *Taenia.* * Preparing students’ presentation of their findings, making clarification and summary. | **JUNE** | 1ST | Variety of organisms under phylum platyhelminthes.  A chart showing a well labeled diagram of *Taenia.* | Exercise |  |
| **Phylum Aschelminthes (Nematoda).** | * Using diagrams of round worms and preserved round worms, preparing the students to discuss in groups on the general and distinctive features of the phylum Aschelminthes, describe the structure of round worms, advantages and disadvantages of round worms*.* * Preparing students’ presentation of their findings, making clarification and summary | 2ND | A chart of a well labeled diagram of the round worms.  Preserved round worms.  Hand lens. | Homework |  |
| **Terminal assessment (13/06/2022- 24/06/2022)**  **First term break (25/06/2022- 24/07/2022)** | | | | | | | | | |
|  | **Phylum Annelida.** | * Using diagrams of Earthworm and preserved Earthworms preparing the students to discuss in groups on the general and distinctive features of the phylum Annelida, describe the structure of Earthworm, advantages and disadvantages of Earthworms*.* * Preparing students’ presentation of their findings, making clarification and summary | **JULY** | 4TH | 08 |  | A chart of a well labeled diagram of the Earthworms.  Preserved Earthworms.  Hand lens. | Exercise |  |
| **Phylum Arthropoda**. | * Using variety of organisms for each class in phylum Arthropoda, preparing the students through questions and answers method to discuss and explain the general and distinctive features of the phylum Arthropoda,mention classes of the phylum Arthropoda and example of each organism under each class with their distinctive features,structural description,their advantages and disadvantages * Making conclusion | **AUGUST** | 1ST | *J****. M. Mwaniki& G.G. Geoffrey (2009).Fundamentals of biology, form four student book*.Dar-es-salaam:Longhorn publishers.**  **SCSU&MoEVT-Zanzibar(2010).*Biology for secondary schools form 4*.Dar-es-salaam:Oxford University Press(T) Ltd**  *J****. M. Mwaniki& G.G. Geoffrey (2009).Fundamentals of biology, form four student book*.Dar-es-salaam:Longhorn publishers.** | Diagrams of organism representing every class of the phylum Arthropoda | Homework |  |
| **Phylum Chordata**. | * Using variety of organisms for each class in phylum Chordata, preparing the students through questions and answeres method to discuss and explain the general and distinctive features of the phylum Chordata,mention classes of the phylum Chordata and example of each organism under each class with their distinctive features,structural description,their advantages and disadvantages * Making conclusion and summary | Representative organism in each class under phylum Chordata  Diagrams of organism representing every class of the phylum Chordata | Classwork |  |
| **EVOLUTION** | **Concept of organic evolution and**  **Theories of the origin of life.** | * Using texts on the concept of organic evolution and theories of the origin of life, preparing students through questions and answers method to explain the concept of organic evolution,outline the basic ideas about the origin of life and state the theories of the origin of life. | 2ND | 08 | Texts on the concept of organic evolution and theories of the origin of life. | Quiz |  |
| **Theories of Organic Evolution.**  **Lamarckism.** | * Using texts on the theories of Organic Evolution and Lamarckism, preparing the students through questions and answers method to state Lamarck’s theory of evolution,explain Lamarck’s observation and deduction and outline merits and demerits of Lamarck’s theory of evolution. | 4TH | Using texts on the theories of Organic Evolution and Lamarckism. | Test |  |
| **Darwinism.** | * Using the texts on Darwin’s theory of evolution, preparing the students through questions and answers method to state Darwin’s theory of evolution and Investigate evidences and application of organic evolution in the real life situation. | **SEPTEMBER** | 1ST  AND  4THTH | 12 | Texts on Darwin’s theory of evolution | Assignment |  |
| **Mid-term assessment (05/09/2022- 09/09/2022)**  **Mid-term break (10/09/2022- 25/09/2022)** | | | | | | | | | |
| **HIV,AIDS and STIs** | **Relationship between HIV,AIDS STIs.** | * Through questions and answers method preparing the students to brainstorm and give the differences between HIV,AIDS and stis and explain the relationship between HIV and stis. * Making conclusion and summary. | **OCTOBER** | 1ST | 04 |  | Texts on HIV,AIDS and STIs | Exercise |  |
| **Management and Control of HIV/AIDS and STIs.** | * Preparing the students to discuss in groups on each outlined objective about Management and Control of HIV/AIDS and stis. * Leading students to present their findings. * Making clarification of the students’ findings, making conclusion and summary of the major points | 2ND | 08 |  | Texts on HIV,AIDS and STIs | Homework |  |
| **Counseling and voluntary Testing (CVT).** | * Through questions and answers method, preparing the students to explain the concept of counseling and voluntary testing, outline the significance of CVT in the control and prevention of HIV/AIDS AND stis and the procedure and technique of CVT for HIV/AIDS. * Making conclusion and summary of the major points. | 3RD |  | Extracts/texts on procedures and techniques of CVT. | Classwork |  |
| **Preparation for certificate of secondary education examination**  **(24/10/2022 - 28/10/2022)** | | | | | | | | | |

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