SCHEME OF WORK BIOLOGY

FORM 3 2022 TERM I

ENDARASHA BOYS

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| **2** | 1 | CLASSIFICATION II | Principles of classification of living organisms.Binomial Nomenclature. | By the end of the lesson, the learner should be able to:Explain the importance of classification of organisms.Discuss the general principles of classification.Identify major taxonomic units. To define a species.To explain features of a species.To explain principles of binomial nomenclature. | Q/A: To review Classification I. Discussion of principles of classification of organisms.Q/A: Major taxonomic units.Probing questions leading to definition of a species.Give examples of breeds and varieties. Discuss the double- naming system and the underlying features. | Chart- Taxonomic units.Chart- Examples of generic and specific names of organisms. | KLB BK III. PP 1-2. |  |
| 2 | CLASSIFICATION II | Animal Kingdoms. Kingdom Monera. | By the end of the lesson, the learner should be able to: Identify the five animal kingdoms.State characteristics of members of kingdom Monera.To identify and draw various bacteria.To explain how bacteria affect our lives. | Expository approach - The teacher will expose the five kingdoms.Discussion- General characteristics of unicellular and microscopic organisms.Drawing and labeling a bacterium.Q/A: Economic importance of bacteria. | Chart- Types of bacteria | KLB BK III.P 3. |  |
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| 3-4 | CLASSIFICATION II | Kingdom Protoctista. Organisms with varied forms. | By the end of the lesson, the learner should be able to:To give examples of members of kingdom Protoctista.To state general characteristics of members of kingdom Protoctista.To draw and label an amoeba, paramecium, spirogyra, e.t.c. | Teacher leads in a discussion.Drawing and labelling organisms with varied forms. | chartWall charts. | KLB BK III. PP 4-5.KLB BK III. P 4-5. |  |
| 5 | CLASSIFICATION II | Organisms in pond water. | By the end of the lesson, the learner should be able to:To identify organisms in pond water. | Examine a drop of pond water on a glass slide under a microscope.Draw diagrams of organisms observed. Compare the observed organisms with those previously drawn and labelled. | Microscope Water dropper Pond water Glass slides. | KLB BK III. P. 4-5. |  |
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| **3** | 1 | CLASSIFICATION II | Kingdom Fungi. Characteristics of Kingdom Fungi. | By the end of the lesson, the learner should be able to:To give examples of members of kingdom fungi.To discuss economic importance of fungi. To state general characteristics of fungi. | Detailed discussion. Exposition of new concepts/ terms. | Mushrooms, Yeast,Bread mould. | KLB BK III. P 6. |  |
| 2 | CLASSIFICATION II | Diagrams of Fungi. | By the end of the lesson, the learner should be able to: To draw and label various fungi. | Examine bread mould. Draw and label diagrams of various fngi. | Wall charts, Bread mould, Yeast,Edible mushroom. | KLB BK III. P 6. |  |
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| 3-4 | CLASSIFICATION II | Kingdom Plantae. General characteristics.Division Bryophyta External structure of a Bryophyta. | By the end of the lesson, the learner should be able to: State general characteristics of plants.State general characteristics of Bryophyta.To draw and label external features of an identified Bryophyta. To identify features of Bryophyta. | Q/A: Compare plants with the aforementioned kingdoms, and then list down characteristics of plants.Teacher leads in a discussion. Students examine moss plant under a hand lens, then Draw and label the moss plant. | Moss plant, Hand lens, Slide. | KLB BK III. P 7. |  |
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|  | 5 | CLASSIFICATION II | Division Pteridophyta. | By the end of the lesson, the learner should be able to: To state general characteristics of Pteridophytes.To draw and label external features of Pteridophytes. | Teacher leads in a discussion on characteristics of Pteridophytes.Class experiments: To observe a live or preserved fern.To draw and label the fern. | A live or preserved fern. | KLB BK III. P 7. |  |
| **4** | 1 | CLASSIFICATION II | Division Spermatophyta. Features of Spermatophytes. | By the end of the lesson, the learner should be able to: To state general characteristics of spermatophytes.To identify features of spermatophytes. | Teacher leads in a discussion on spermatophytes. Class experiments: To examine a complete specimen of a bean plant with ponds/ maize plant/ a twig of cypress. | text book Complete specimens of bean plant with ponds/ maize plant/ a twig of cypress. | KLB BK III. P 9. |  |
| 2 | CLASSIFICATION II | Sub-division Gymnospermatophyta. | By the end of the lesson, the learner should be able to: To state general characteristics ofgymnospermatophyta. | Detailed discussion. | text book | KLB BK III. P 9. |  |
| 3-4 | CLASSIFICATION II | Subdivision Angiospermaphyta. Class Monocotyledonae. Class Dicotyledonae. | By the end of the lesson, the learner should be able to: To state general characteristics of angiospermaphyta. To list down characteristics of Monocotyledonae. To list down characteristics of Dicotyledonae. | Detailed discussion. Q/A: Comparing gymnospermatophyta and angiospermaphyta. Class experiments: Examine maize plant/ wheat/ grass/ sugarcane.Discuss external features of the plants. Class experiments: Examine external features of bean plant/ black jack/ tea.Discuss their external features. | text book Maize plant/ wheat/ grass/ sugarcane.Bean plant/ black jack/ tea. | KLB BK III. P 10. KLB BK III. P 11. |  |
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|  | 5 | CLASSIFICATION II | Kingdom Animalia. Phyllum Arthropoda. | By the end of the lesson, the learner should be able to:To state characteristics of kingdom Animalia. To state general characteristics of Arthropoda. | Q/A: To review general characteristics of animals as compared to those of plants.Q/A: General characteristics of Arthropoda. | text book | KLB BK III. P 12. |  |
| **5** | MID TERM EXAMS AND BREAK |
| **6** | 1 | CLASSIFICATION II | Class Crustacea. | By the end of the lesson, the learner should be able to:To list down external features of a crab/ crayfish. | Examine preserved specimens of a crab/ crayfish and identify external features.Draw and label diagrams.Discuss their general characteristics. | Specimens of a crab/ crayfish. | KLB BK III. P 13. |  |
| 2 | CLASSIFICATION II | Class Chilopoda. Class Diplopoda. | By the end of the lesson, the learner should be able to:To describe external features of a centipede. To describe external features of a milipede. | Examine a centipede. Draw and label a centipede.Discuss general characteristics of Chilopoda comparing them to those of other members of the kingdom Animalia.Examine a milipede. Draw and label a milipede.Discuss general characteristics of diplopoda comparing them to those of other members of the kingdom Animalia. | A centipede. A milipede. | KLB BK III. P 14. |  |
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|  | 3-4 | CLASSIFICATION II | Class Arachnida. Class Insecta.Phyllum Chordata. | By the end of the lesson, the learner should be able to: To describe external features of mites, spiders, scorpions, ticks.To describe external features of common insects.To identify general characteristics of chordates. | Examine specimens of freshly killed/ preserved arachnids.Q/A: Differences between arachnids and members of other classes.Discuss general characteristics of Arachnida.Examine live/ freshly killed specimens of ground beetle, honeybee, termite, e.t.c.List down general characteristics of insecta.Discuss economic importance of insects. Q/A: Identify classes of phylum chordata. Discussion: characteristics of chordates. | Specimens of freshly killed/ preserved arachnids.Live/ freshly killed specimens of ground beetle, honey-bee, termite, e.t.c. | KLB BK III. P 15. KLB BK III. PP 16-18. |  |
| 5 | CLASSIFICATION II | Class Pisces. | By the end of the lesson, the learner should be able to: To draw and label external features of a (tilapia) fish. | Exposition- Teacher exposes new concepts pertaining to characteristics of fish. | Chart ?tilapia fish. | KLB BK III. P 18. |  |
| **7** | 1 | CLASSIFICATION II | Class Amphibia. | By the end of the lesson, the learner should be able to:To compare observable features of a tilapia fish and those of a frog. | Group experiments- Observing specimens and placing them in their respective classes. | Preserved specimens ? fish, amphibians. | KLB BK III. P 18. |  |
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|  | 2 | CLASSIFICATION II | Class Reptilia. Class Aves. | By the end of the lesson, the learner should be able to: To state general characteristics of reptilia.To state general characteristics of aves. | Q/A: Comparing reptiles and amphibians/ aves Discussion: General characteristics of reptilia. | Chart- Diagrams of birds. | KLB BK III. P 18. |  |
| 3-4 | CLASSIFICATION II | Class Mammalia. Dichotomous key. | By the end of the lesson, the learner should be able to: To state general characteristics of Mammalia.To explain the rules used in constructing a dichotomous key. | Q/A: Examples of egg laying mammals, pouched mammals, primates, etc.Teacher exposes features of a dichotomous key. | Diagrams of various mammals. | KLB BK III. P 20. KLB BK III. P 23. |  |
| 5 | CLASSIFICATION II | Features for identifying animals / plants.Examples of dichotomous keys. | By the end of the lesson, the learner should be able to: To list identification features for animals/ plants.To construct dichotomous keys using leaves, stems, e.t.c. | Teacher exposes features for identifying animals/ plants.Teacher leads through constructed dichotomous keys. | Chart- Constructed dichotomous keys. | KLB BK III. P 24. |  |
| **8** | 1 | CLASSIFICATION II | Construction of dichotomous keys. | By the end of the lesson, the learner should be able to:To construct a guided dichotomous key of a given number of steps. To use a constructed dichotomous key to identify given specimens.To construct own dichotomous key. | Supervised exercise. Written exercise.Exercise review. | Plants from different families.Different plant species. | KLB BK III. PP 24-30 |  |
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| 2 | ECOLOGY | Concepts of ecology. | By the end of the lesson, the learner should be able to:To differentiate between autecology and synecology.Define various concepts used in ecology. | Exposition- Teacher exposes new concepts and explains their underlying meanings. | text book | KLB BK III. P 33 |  |
| 3-4 | ECOLOGY | Abiotic factors in an ecosystem. | By the end of the lesson, the learner should be able to: To describe various abiotic factors that affect distribution of organisms. | Detailed discussion of effect of light, temperature, pressure, wind, humidity, salinity, pH on distribution of organisms. | text book | KLB BK III. P 34. |  |
| 5 | ECOLOGY | Measuring abiotic factors. | By the end of the lesson, the learner should be able to: To measure abiotic factors that affect distribution of organisms. | Group activities- Measuring temperature, humidity, pH.Answering related questions. | Thermometers pH meter e.t.c. | KLB BK III. P 34. |  |
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| **9** | 1 | ECOLOGY | Biotic inter- relationships. - Competition.- Predation. | By the end of the lesson, the learner should be able to:To differentiate between intraspecific and interspecific competition.To interpret graphs representing competition between two species.To define an ecological niche and a habitat.To define a predator and a prey.To describe adaptive characteristics of various predators. | Teacher exposes new concepts.Teacher leads in interpreting graphs showing competition. Q/A: Deductions from graphs.Q/A: Pairs of predators and preys.Discussion: Adaptive characteristics of leopards, hawks, praying mantis, lions, e.t.c | Chart ? graphs. text book | KLB BK III. P 35. |  |
| 2 | ECOLOGY | * Parasitism.
* Symbiosis and Saprophytism.
 | By the end of the lesson, the learner should be able to: To distinguish parasitism from predation.To differentiate between endoparasites and ectoparasites.To identify adaptive features of parasites. To define symbiosis and saprophytism.To explain economic importance of symbiosis and saprophytism. | Q/A: Pairs of parasites and hosts.Examine specimens of endoparasites and ectoparasites.Discuss economic importance of parasites.Detailed discussion. Examples of symbiants and saprophytic organisms. | Specimens of endoparasites and ectoparasites. text book | KLB BK III. P 37. |  |
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|  | 3-4 | ECOLOGY | The Nitrogen cycle. Trophic levels.Food chains. | By the end of the lesson, the learner should be able to: Describe the nitrogen cycle.Explain importance of micro-organisms in root nodules of plants.To identify various trophic levels occupied by organisms.To describe energy flow in an ecosystem. To define a food chain. To give examples of food chains.To identify trophic levels of organism(s) in a food chain. | Discuss flow chart of nitrogen cycle.Q/A: To review photosynthesis; carnivores, herbivores, Discuss trophic levels in an ecosystem.Teacher gives an illustration of a food chain; then gives specific examples. Q/A: Trophic levels of organisms in a food chain. | Chart-Nitrogen cycle.Flow chart- Energy flow in an ecosystem.chart | KLB BK III. PP 40-41.KLB BK III. PP 40-41. |  |
| 5 | ECOLOGY | Food webs. | By the end of the lesson, the learner should be able to:To interpret food webs. | Teacher illustrates a food web in a given habitat.Emphasis is laid on direction of arrows. Answer questions derived from food webs. | charts | KLB BK III. P 43. |  |
| **10** | END OF TERM EXAMS AND BREAK |