GOLDEN ELITE EDUCATIONAL PUBLISHERS

FOR ALL THE FORMS ALL SUBJECTS CALL OR TEXT 0724351706

SCHEME OF WORK FORM THREE TERM ONE YEAR 2022							
WNO	**L/NO**	**TOPIC/ SUBTOPIC**	**LESSON / SPECIFIC OBJECTIVES**	**TEACHING / LEARNING ACTIVITIES**	**MATERIALS / RESOURCES**	**REF.**	**REMARKS**
1	1	**CLASSIFICATION II** Principles of classification of living organisms.	*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.	Q/A: To review *Classification I.* Discussion of principles of classification of organisms. Q/A: Major taxonomic units.	Chart- Taxonomic units.	KLB BK III. *PP 1*-2.	
	2	Binomial Nomenclature.	To define a species. To explain features of a species. To explain principles of binomial nomenclature.	Probing questions leading to definition of a species. Give examples of breeds and varieties. Discuss the double- naming system and the underlying features.	Chart- Examples of generic and specific names of organisms.	KLB BK III.*P 2.*	

	3 4	Animal Kingdoms. Kingdom *Monera.*	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.*	
	5	Kingdom *Protoctista.*	To give examples of members of kingdom *Protoctista.* To state general characteristics of members of kingdom *Protoctista.*	Teacher leads in a discussion.		KLB BK III. *PP 4-5.*	
2	1	Organisms with varied forms.	To draw and label an amoeba, paramecium, spirogyra, e.t.c.	Drawing and labelling organisms with varied forms.	Wall charts.	KLB BK III. *P 4-5.*	
	2,3	Organisms in pond water.	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.*	

	4,5	Kingdom *Fungi.* Characteristics of Kingdom *Fungi.*	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.*	
3	1,2	Diagrams of *Fungi.*	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.	
	3	Kingdom *Plantae.* General characteristics.	State general characteristics of plants.	Q/A: Compare plants with the aforementioned kingdoms, and then list down characteristics of plants.		KLB BK III. *P 7.*	
	4	Division *Bryophyta* External structure of a Bryophyta.	State general characteristics of *Bryophyta.* To draw and label external features of an identified Bryophyta. To identify features of *Bryophyta*.	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.*	
	5	Division *Pteridophyta.*	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	Division *Spermatophyta.*	To state general characteristics of *spermatophytes.*	Teacher leads in a discussion on *spermatophytes.*		KLB BK III. *P 9.*	
	2	Features of Spermatophytes.	To identify features of spermatophytes.	Class experiments: To examine a complete specimen of a bean plant with ponds/ maize plant/ a twig of cypress.	Complete specimens of bean plant with ponds/ maize plant/ a twig of cypress.	KLB BK III. *P 9.*	
	3	Sub-division Gymnospermatophyta.	To state general characteristics of gymnospermatophyta.	Detailed discussion.		KLB BK III. *P 9.*	
	4	Subdivision Angiospermaphyta.	To state general characteristics of angiospermaphyta.	Detailed discussion. Q/A: Comparing gymnospermatophyta and angiospermaphyta.		KLB BK III. *P 10.*	
	5	Class Monocotyledonae.	To list down characteristics of *Monocotyledonae.*	Class experiments: Examine maize plant/ wheat/ grass/ sugarcane. Discuss external features of the plants.	Maize plant/ wheat/ grass/ sugarcane.	KLB BK III. *P 11.*	
5	1	Class *Dicotyledonae*.	To list down characteristics of *Dicotyledonae.*	Class experiments: Examine external features of bean plant/ black jack/ tea. Discuss their external features.	Bean plant/ black jack/ tea.	*KLB BK III. P 11.*	

		Kingdom *Animalia.*	To state characteristics of kingdom *Animalia*.	Q/A: To review general characteristics of animals as compared to those of plants.		KLB BK III. *P 12.*	
	2	Phyllum *Arthropoda*.	To list common features of Arthropoda.	Class experiments. Examine external features of freshly killed grasshopper/ spider/ millipede/ centipede. List down common features of the specimens.	Freshly killed grasshopper/ spider/ millipede/ centipede	KLB BK III. *P 12.*	
		Phyllum *Arthropoda.*	To state general characteristics of Arthropoda.	Q/A: General characteristics of Arthropoda.		KLB BK III. *P 12.*	
	3	Class *Crustacea.*	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.*	
	3 DAY MID-TERM BREAK						
6	1	Class *Chilopoda.*	To describe external features of a centipede.	Examine a centipede. Draw and label a centipede. Discuss general characteristics of *Chilopoda* comparing them to those of other members of the kingdom *Animalia.*	A centipede.	KLB BK III. *P 14.*	

	2	Class *Diplopoda.*	To describe external features of a milipede.	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 milipede.	KLB BK III. *P 15.*	
6	3	Class *Arachnida.*	To describe external features of mites, spiders, scorpions, ticks.	Examine specimens of freshly killed/ preserved arachnids. Q/A: Differences between arachnids and members of other classes. Discuss general characteristics of *Arachnida.*	Specimens of freshly killed/ preserved arachnids.	KLB BK III. *P 15.*	
	4	Class *Insecta.*	To describe external features of common insects.	Examine live/ freshly killed specimens of ground beetle, honeybee, termite, e.t.c. List down general characteristics of insecta. Discuss economic importance of insects.	Live/ freshly killed specimens of ground beetle, honey-bee, termite, e.t.c.	KLB BK III. *P 15.*	
	5	TEST					
7	1	Phyllum *Chordata.*	To identify general characteristics of chordates.	Q/A: Identify classes of phylum chordata. Discussion: characteristics of chordates.		KLB BK III. *PP 16-18.*	
	2	Class *Pisces.*	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.*	

	3	Class *Amphibia.*	To give examples of Amphibia. To list down general characteristics of Amphibia.	Q/A: Examples of Amphibia. Discussion.	Chart- Diagrams of Amphibia.	KLB BK III. *P 18.*	
	4,5	Class *Amphibia.*	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.*	
8	1	Class *Reptilia.*	To state general characteristics of reptilia.	Q/A: Comparing reptiles and amphibians/ aves Discussion: General characteristics of reptilia.		KLB BK III. *P 18.*	
	2	Class *Aves.*	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 19.*	
	3	Class *Mammalia.*	To state general characteristics of *Mammalia.*	Q/A: Examples of egg laying mammals, pouched mammals, primates, etc.	Diagrams of various mammals.	KLB BK III. *P 20.*	
	4,5	Dichotomous key.	To explain the rules used in constructing a dichotomous key.	Teacher exposes features of a dichotomous key.		KLB BK III. *P 23.*	
9	1	Features for identifying animals / plants.	To list identification features for animals/ plants.	Teacher exposes features for identifying animals/ plants.		KLB BK III. *P 24.*	

		Examples of dichotomous keys.	To construct dichotomous keys using leaves, stems, e.t.c.	Teacher leads through constructed dichotomous keys.	Chart- Constructed dichotomous keys.	KLB BK III. *P 24.*	
	2	Construction of dichotomous keys.	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*	
	3	**ECOLOGY** Concepts of ecology.	To differentiate between autecology and synecology. Define various concepts used in ecology.	Exposition- Teacher exposes new concepts and explains their underlying meanings.		KLB BK III. *P 33*	
		Abiotic factors in an ecosystem.	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.		KLB BK III. *P 34.*	
	4	Measuring abiotic factors.	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.*	

		Biotic inter-relationships. - *Competition.*	To differentiate between *intraspecific* and *interspecific* competition. To interpret graphs representing competition between two species. To define an ecological niche and a habitat.	Teacher exposes new concepts. Teacher leads in interpreting graphs showing competition. Q/A: Deductions from graphs.	Chart – graphs.	KLB BK III. *P 35.*	
	5	- *Predation.*	To define a predator and a prey. To describe adaptive characteristics of various predators.	Q/A: Pairs of predators and preys. Discussion: Adaptive characteristics of leopards, hawks, praying mantis, lions, e.t.c		KLB BK III. *P 37.*	
		- *Parasitism.*	To distinguish parasitism from predation. To differentiate between endoparasites and ectoparasites. To identify adaptive features of parasites.	Q/A: Pairs of parasites and hosts. Examine specimens of endoparasites and ectoparasites. Discuss economic importance of parasites.	Specimens of endoparasites and ectoparasites.	KLB BK III. *P 37.*	
		- *Symbiosis and Saprophytism.*	To define symbiosis and saprophytism. To explain economic importance of symbiosis and saprophytism.	Detailed discussion. Examples of symbiants and saprophytic organisms.		KLB BK III. *P 38.*	

		The Nitrogen cycle.	Describe the nitrogen cycle. Explain importance of micro-organisms in root nodules of plants.	Discuss flow chart of nitrogen cycle.	Chart-Nitrogen cycle.	KLB BK III. *PP 40-41.*	
10		END OF TERM ONE EXAMS					

SCHEME OF WORK FORM THREE TERM TWO YEAR 2022							
WNO	***L/NO***	*TOPIC/ SUBTOPIC*	*LESSON / SPECIFIC OBJECTIVES*	*TEACHING / LEARNING ACTIVITIES*	*MATERIALS / RESOURCES*	REF.	*REMARKS*
1	1	Trophic levels.	To identify various trophic levels occupied by organisms. To describe energy flow in an ecosystem.	Q/A: To review photosynthesis; carnivores, herbivores, Discuss trophic levels in an ecosystem.	Flow chart-Energy flow in an ecosystem.	KLB BK III. *PP 40-41.*	
	2	Food chains.	To define a food chain. To give examples of food chains. To identify trophic levels of organism(s) in a food chain.	Teacher gives an illustration of a food chain; then gives specific examples. Q/A: Trophic levels of organisms in a food chain.		KLB BK III. *P 42.*	

	3	Food webs.	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.		KLB BK III. *P 43.*	
	4	Ecological pyramids of numbers.	To represent feeding relationships and energy flow using pyramids of numbers.	Q/A: Review trophic levels. Teacher explains features of pyramid of numbers.		KLB BK III. *PP 41-42.*	
	5	Constructing Pyramid of numbers from given data.	To construct pyramid of numbers from given data. To interpret constructed pyramid of numbers from given data.	Q/A: Identifying trophic levels of organisms. Use given date to construct pyramid of numbers. Supervised Exercise.		KLB BK III. *PP 42-43*	
2	1	Inverted pyramid of numbers.	Give examples where an inverted pyramid of numbers exists; giving reasons thereof.	Representing inverted pyramid of numbers diagrammatically.	Chart- Inverted pyramid of numbers.	KLB BK III. *PP 43-44*	
	2	Pyramid of Biomass.	To define biomass of an organism. To interpret the pyramid of biomass. To construct a biomass from given data.	Teacher exposes new concepts; then leads in a detailed discussion. Students construct biomass from given data.		KLB BK III. *PP 44-45.*	

	3	Population.	To describe some characteristics of populations. To explain factors affecting population growth rate.	Q/A: Definition of population. Discuss population density, dispersion and growth. Q/A: Factors affecting population growth rate; including food availability, space, diseases such as HIV/AIDS, pests, e.t.c.		KLB BK III. *P 46.*	
	4	Quadrat method of estimating population.	To describe the quadrat method of estimating population. To suggest limitations of quadrat method of estimating population.	Teacher explains use of quadrat method of estimating population. Q/A: limitations of quadrat method of estimating population. Project- students to make quadrats.		KLB BK III. *PP 46-47.*	
	5	Quadrat method of estimating population.	To estimate population using quadrat method.	Students' outdoor activity- Estimating population using standard quadrats.	Standard quadrats.	KLB BK III. *PP 46-47.*	
3	1	Line - transect method of estimating population.	To describe the line transect method of population. To suggest limitations of line transect method of population.	Teacher explains procedure of line transect method of population. Q/A: Students suggest limitations of line transect method of population.		*KLB BK III. PP 47-48.*	

	2	Belt transect method of estimating population.	To estimate population using belt transect method of population.	Group work – outdoor activity. Discussion.	Tape measure, quadrats, pegs, thermometer, pH indicator, e.t.c	KLB BK III. *PP 48-49.*	
	3	Capture-recapture method.	To describe capture-recapture method of estimating population. To suggest limitations of capture-recapture method. To estimate population size using capture-recapture method.	Detailed discussion and explanations. Q/A: Assumptions made in this method, limitations of the method. Worked examples.		KLB BK III. *PP 48-49.*	
	4	Xerophytes.	To state characteristics of dry habitats. To identify adaptations of xerophytes to their habitats.	Q/A: Characteristics of dry habitats. Discussion: Adaptations of xerophytes to dry habitats.	Specimens of xerophytes.	KLB BK III. *P 50.*	
	5	Mesophytes.	To state characteristics of habitats of mesophytes. To explain adaptations of mesophytes to their habitats.	Q/A: Characteristics of habitats where mesophytes thrive. Discussion: Adaptations of mesophytes to their habitats.	Specimens of mesophytes.	KLB BK III. *P 51.*	
4	1	Hydrophytes.	To state characteristics of habitats of hydrophytes. To explain adaptations of hydrophytes to their habitats.	Q/A: Characteristics of habitats where hydrophytes. thrive. Discussion: Adaptations of hydrophytes to their habitats.	Specimens of hydrophytes.	KLB BK III. *P 51.*	

	2,3	Halophytes.	To state characteristics of habitats of halophytes. To explain adaptations of halophytes to their habitats.	Q/A: Characteristics of dry habitats. Discussion: Adaptations of dry habitats.	Specimens of halophytes.	KLB BK III. *P 52.*	
	4,5	Adaptive features of plants.		Group experiments- Students examine given specimens and suggest their habitats. Identify adaptive features.	Xerophytes Mesophytes Hydrophytes Hand lenses.	KLB BK III. *P 50.*	
5	1	Pollution and its effects.	To define pollution, pollutants. To explain effects of pollution on human beings and other organisms.	Discussion punctuated with Q/A.		KLB BK III. *P 55.*	
	2	Air pollution.	To identify causes and effects of air pollution. To suggest control measures of air pollution.	Detailed discussion & probing questions.		KLB BK III. *PP 56-59.*	
	3	Water pollution.	To identify causes and effects of water pollution. To suggest control measures of water pollution.	Detailed discussion & Q/A.		KLB BK III. *P 60.*	
	3 DAY MID-TERM BREAK						

6	1	Soil pollution.	To identify causes and effects of soil pollution. To suggest control measures of soil pollution.	Detailed discussion & Q/A.		KLB BK III. *P 62.*	
	2	Radioactive emissions.	To identify effects of radioactive emissions. To state uses of nuclear energy.	Brief discussion on radioactive emissions and nuclear energy		KLB BK III. *P 62.*	
	3, 4	Human diseases. Typhoid & cholera.	To identify disease predisposing factors. To describe causative agents, symptoms, prevention of bacterial diseases.	Detailed discussion with probing questions.		KLB BK III. *P 63.*	
	5	Protozoan diseases.	To identify causal agents, symptoms, prevention and treatment of amoebic dysentery and malaria.	Detailed discussion, Q/A.		KLB BK III. *PP 66.*	
7	1	Prevention and control of protozoan diseases.	To explain methods of preventing and controlling protozoan diseases.				

		Ascaris lumbricoides.	To identify adaptive features of *Ascaris lumbricoides.* To state and explain effects of a parasite on the host. To suggest preventive and control measures.	Group activities: Students examine preserved specimens of *Ascaris lumbricoides* and identify some adaptive features. Detailed discussion.	Preserved specimens of *Ascaris lumbricoides.*	KLB BK III. *P 67.*	
	2	Bilharzia.	To identify causal and transmission agents of bilharzia. To describe effects of the parasite on its host. To identify adaptive features of schistosoma.	Brief discussion Q/A: Effects on host and control measures.		KLB BK III. *P 69.*	
	3	TEST					
		REPRODUCTION IN PLANTS AND ANIMALS Introduction	To differentiate between sexual and asexual reproduction. To state importance of reproduction.	Q/A: Defination of reproduction. Teacher illustrates and explains sexual and asexual reproduction.		KLB BK III. *P 78.*	
	4	Cell division.	To define genes and chromosomes. To describe the role of chromosomes in cell division.	Detailed discussion.		KLB BK III. *P 79.*	

		Mitosis.	To describe the process of mitosis.	Teacher leads in a detailed discussion. Drawing diagrams showing stages of mitosis.		KLB BK III. *P 80.*	
	5	Mitosis in a young root tip.	To describe an experiment to show mitosis in a young root tip.	Group experiments: Observing different stages of mitosis. Drawing cells showing stages of mitosis. Comparing drawn cells with those previously drawn.	Onion root tip. Microscope IM HCl Cover slides.	KLB BK III. *P 80.*	
8	1	Significance of mitosis.	To explain significance of mitosis.	Detailed discussion.		KLB BK III. *P 81.*	
		Meiosis.	To distinguish meiosis from mitosis. To explain the principle underlying meiosis.	Explanations		KLB BK III. *P 82.*	
	2	First and second meiotic divisions.	To describe the processes of first and second meiotic divisions.	Explanations and drawing diagrams.	Chart- stages of second meiotic division.	KLB BK III. *P 82.*	
		Meiosis in plant cells.	To identify various stages of meiosis.	Group experiments- meiosis in young flower bulbs. Drawing cells showing stages of meiosis. Comparing drawn cells with those previously drawn.	Flower buds IM HCl Source of heat Glass slide Filter paper Microscope	KLB BK III. *P 82.*	

	4	Significance of meiosis.	To explain significance of meiosis.	Detailed discussion. Probing questions leading to differences between mitosis and meiosis.		KLB BK III. *P 82.*	
		Asexual reproduction. Binary fission.	To identify types of asexual reproduction. To describe the stages of binary fission in amoeba.	Exposition and discussion. Drawing diagrams/ discussion.	Chart- Binary fission in amoeba	KLB BK III. *P 87.*	
	4	Spore formation.	To describe the process of spore formation in bread// ugali mould.	Mould on bread /ugali. Identify and draw hyphae and sporangia.	Microscope bread/ ugali mould Hand lens.	KLB BK III. *P 88.*	
		Budding.	To explain conditions necessary for budding in yeast.	Exposition and discussion.		KLB BK III. *P 89.*	
		Budding in yeast.	To explain conditions necessary for budding in yeast.	Identifying, drawing and labeling yeast cells.	Previously prepared 10% sugar solution Methylene blue Microscope	KLB BK III. *P 89.*	
		Sexual reproduction in plants. Structure of a flower.	To draw and label a flower.	Group experiments- Examine flowers and identify parts. Counting number of sepals, petals, stamen, carpels.	Bean flower Morning glory Bauhinia Longitudinal section of a general flower.	KLB BK III. *P 90.*	
	5	Flower terminologies.	To explain terms related to flowers.	Exposition of new concepts. Teacher demonstration- examining features of flowers.	Flowers.	KLB BK III. *P 91.*	

		Pollination. Insect-pollinated flowers.	To define pollination. To identify agents of pollination. To describe the structure of insect-pollinated flowers.	Q/A: Definition of pollination. Agents of pollination. Class experiment- Structure of insect pollinated flowers. Students identify various parts.	Insect-pollinated flowers.	KLB BK III. *P 93.*	
9	1,2	Wind-pollinated flowers.	To describe the structure of wind-pollinated flowers.	Class experiment-examine inflorescence of star grass/ maize/ sugarcane. Identify glumes, spikes and spikelets. Compare them in text books/ charts.	Wind-pollinated flowers.	KLB BK III. *PP 93-94.*	
	3	Adaptive features of wind-pollinated flowers.	To state and explain adaptive features of wind-pollinated flowers.	Q/A: adaptive features of wind-pollinated flowers.	Wind-pollinated flowers.	KLB BK III. *PP 93-94.*	
	4	Features hindering self-pollination.	To discuss features and mechanisms that hinder self-pollination in plants.	Exposition and detailed discussion.		KLB BK III. *PP 93-94.*	
	5	Fertilisation process in flowering plants.	To define fertilisation. To describe the fertilisation process in flowering plants.	Drawing diagrams, detailed discussion.		KLB BK III. *P 95.*	
10		*END OF TERM TWO EXAMS*					

SCHEME OF WORK FORM THREE TERM THREE YEAR 2022							
WNO	***L/NO***	*TOPIC/ SUBTOPIC*	*LESSON / SPECIFIC OBJECTIVES*	*TEACHING / LEARNING ACTIVITIES*	*MATERIALS / RESOURCES*	REFERENCES	*REMARKS*
1	1	Seed formation.	To explain formation of seeds.	Detailed discussion.		KLB BK III. *P 97.*	
	2	Fruit development.	To describe development of fruits in flowering plants.	Detailed discussion.		KLB BK III. *P 98.*	
	3,4	Classification of fruits.	To classify fruits using specific criteria.	Teacher presents several types of fruits and leads students in classifying them. Detailed discussion, drawing of diagrams.	A variety of fruits, petri dishes Blades Containers.	KLB BK III. *P 99.*	
	5	Placentation.	To define placentation. To describe the process of placentation. To identify types of placentation.	Teacher exposes the meaning of placentation. Students examine ovaries of various fruits as the teacher exposes the types of placentation exhibited. Students draw diagrams showing types of placentation.	Fruits Beans Sunflower Pawpaw Orange Primrose, e.t.c	KLB BK III. *P 100.*	

2	1,2	Fruit and seed dispersal.	To explain adaptive features of fruits and seeds to their agents of dispersal.	Students examine fruits and seeds, observe external features, and group them accordingly to methods of dispersal. Detailed discussion of observations made.		KLB BK III. *PP. 102-103*	
	3,4	Internal structure of fruits.	To label the parts of internal structure of a fruit. To identify the functions of internal parts of a fruit.	Teacher demonstration-Vertical sections of fruits. Students draw and label the fruit internal structure.		KLB BK III. *P. 104*	
	5	Sexual reproduction in animals. External fertilisation.	To describe external fertilisation in amphibians.	Detailed discussion.	Strands of eggs of frogs.	KLB BK III. *P 105*	
3	1	Internal fertilisation.	To describe internal fertilisation and compare it with external fertilisation.	Tabulate differences between external and internal fertilisation.		KLB BK III. *P. 105*	

	2,3	Reproduction in mammals. Reproduction in human beings.	To explain the reproduction process in mammals. To draw and label the structure of male reproduction system.	Detailed discussion. Drawing and labeling male reproduction system.	Wall charts- Reproduction system.	KLB BK III. *P. 105*	
	4	Functions of parts of male reproduction system.	To explain the male reproduction system.	Detailed discussion.		KLB BK III. *PP. 106-108*	
	5	Male reproduction system of a male animal.	To identify parts of male reproduction system of a rabbit/ rat.	To examine reproduction system of a male rabbit /rat. Identify the parts of the reproduction system.	Reproduction system of a rabbit/ rat.	KLB BK III. *P. 108*	
4	1,2	Female reproduction system.	To draw and label parts of the female reproduction system.	Drawing and labeling.		KLB BK III. *PP. 108-110.*	
	3	Functions of parts of female reproduction system.	To explain the functions of parts of female reproduction system.	Detailed discussion.		KLB BK III. *PP. 108-110*	
	4	Female reproduction system of a female animal.	To identify parts of female reproduction system of a female animal.	Examine parts of a female reproduction system. Identify the parts.	Dissected female rat/ mouse/rabbit.	KLB BK III. *P.110*	

	5	The human sperm. Formation of ova.	To draw and label the human spermatozoon. To describe the process of formation of ova.	Drawing and labelling. Detailed discussion. Q/A: Adaptations of male gamete to its function.		KLB BK III. *PP. 112-113*	
5	1	Fertilisation process.	To explain the fertilisation process.	Discussion Drawing diagrams.		KLB BK III. *PP. 113-114*	
	2	Implantation.	To define implantation. To define ectopic pregnancy.	Drawing illustrative diagrams. Discussion.		KLB BK III. *P. 114*	
	3	The placenta.	To describe the formation of the placenta and the structure of the placenta.	Exposition and discussion.	Chart- The placenta.	KLB BK III. *P. 115*	
	4	Role of the placenta. Placental exchanges.	To state and explain the role of the placenta. To identify substances allowed / not allowed to pass through the placenta	Exposition and discussion. Drawing diagrams showing placental exchanges. Detailed discussion.		KLB BK III. *P. 116*	
	5	TEST					
6	1	Pregnancy and hormones.	To identify functions of human oestrogen and progestrone during pregnancy.	Tabulate functional differences.			
	2	Abortion, miscarriage, birth.	To describe processes of abortion, miscarriage and birth.	Q/A: To elicit students responses on related issues.		KLB BK III. *PP. 117-119*	

	3	Lactation and parental care.	To explain the role of oxytocin in milk let down. To draw and label mammary glands.	Discussion Drawing and labelling mammary glands.	Wall- charts mammary glands.	KLB BK III. *P. 120*	
	4	Secondary sexual characteristics.	To state secondary sexual characteristics in males and females.	Detailed discussion.			
	5	The menstrual cycle.	To explain the role of hormones in the menstrual cycle.	Detailed discussion.	Chart- Phases of human menstrual cycle.	KLB BK III. *P. 121*	
7	1	28-day menstrual cycle.	To represent hormonal levels on a 28-day chart.	Open discussion. Interpreting illustrative charts.		KLB BK III. *PP. 122-123*	
	2,3	Menopause, infertility and emerging issues.	To describe hormonal changes at menopause. To discuss emerging issues related to infertility and menopause.	Open discussion.		KLB BK III. *P. 123*	
	4,5	Sexually Transmitted Infections & HIV/AIDS.	To identify the symptoms of STIs. To explain the mode of transmission of STIs / AIDS and discuss methods of control. To differentiate between HIV and AIDS.	Detailed discussion. Q/A: Distinction and relationship between HIV and AIDS.	Chart- STIs causal agents, symptoms, prevention and control measures.	*PP. 123-125*	
8	1	**GROWTH & DEVELOPMENT.** The concepts of growth and development.	To distinguish growth from development.	Q/A: Aspects that occur during growth. Detailed discussion of growth and development.		KLB BK III. *P. 134*	

		Measurement of growth.	To identify aspects that indicate growth of an organism. Sketch a growth curve.	Discuss growth aspects-height, weight and volume.		KLB BK III. *P. 134*	
	2	Growth phases.	To describe lag and decelerating phases of growth.	Students will have collected data, e.g. height of shoots of different ages. Teacher assists students to draw growth curves. Discussion- phases of growth.	Shoots of known ages.	KLB BK III. *P. 135*	
		Intermittent growth curve.	Explain growth curve showing intermittent growth.	Q/A: life cycles of insects. Exposition and detailed discussion.		KLB BK III. *P. 135*	
	3	Structure of the seed.	To draw and label a typical seed. To state the functions of the parts of a seed.	Students examine external structure of bean seeds and maize seeds. Teacher assists them to identify the parts of the seeds. Drawing and labeling the seeds.	Specimens of maize and bean seeds.	KLB BK III. *P. 136*	
		Longitudinal sections of monocots and dicots.	To identify structural differences between monocots and dicots.	Obtain longitudinal section of the seeds. Identify structural differences of the specimens. Carry out iodine tests. Explain the observations.	Hand lens Maize and bean seeds. Iodine Scalpels.	KLB BK III. *P. 136*	
	4	Dormancy in seeds.	To define seed dormancy. To explain factors that cause dormancy and ways of breaking dormancy.	Detailed discussion.		KLB BK III. *P. 137*	

		Seed germination.	To describe the process of seed germination. To investigate conditions necessary for germination. To explain conditions necessary for germination.	Observe previously prepared specimens. Discuss the observations.	Seeds Cotton wool Flat bottomed flasks Corks T-tubes Thermometers pyrogallic acid NaOH solution.	KLB BK III. *P 140.*	
		Epigeal germination.	To differentiate between epigeal and hypogeal germination. To describe epigeal germination.	Observe previously prepared specimens of germinating bean seed/ castor seed. Drawing comparative diagrams.	Specimens of germinating bean/castor seed at different phases of germination.	KLB BK III. *P. 141*	
		Hypogeal germination.	To describe hypogeal germination.	Observe previously prepared specimens of germinating bean seed/ castor seed. Drawing diagrams.	Specimens of germinating maize seed at different phases of germination.	KLB BK III. *P. 141*	
	5	Primary growth of a seedling.	To describe primary growth of a seedling.	Brief discussion.		KLB BK III. *P 143*	

		Region of growth in a root.	To determine the region of growth in a root.	Group experiments- Observe previously prepared specimens to determine regions of growth. Discuss observations made. Draw relevant diagrams.	Germinating bean seeds Cork pin Beaker Indian ink Blotting paper Ruler.	KLB BK III. *P. 144*	
		Apical meristems.	To draw and label longitudinal and transverse sections of apical meristems.	Drawing and labelling transverse sections of apical meristems.	Charts- Apical meristems.	KLB BK III. *P. 144*	
9	1	Secondary growth.	To describe secondary growth of plants.	Detailed discussion.		KLB BK III. *PP. 145-146*	
	2	Growth hormones.	To explain role of hormones in growth of plants.	Discuss the role of IAA, gibberellins, cytokinins, and abscisic acid e.t.c, in plant growth.		KLB BK III. *P. 147*	
	3	Apical dominance.	To explain the role of auxins in apical dominance.	Probing questions leading to definition and explanation of apical dominance.	Shoot with lateral growth.	KLB BK III. *PP. 147-148.*	
	4	Growth and development in insects.	To differentiate between complete and incomplete metamorphosis.	Q/A: Features of complete and incomplete metamorphosis of insects.		KLB BK III. *PP.148-14.9*	
	5	Role of hormones in insect growth.	To identify hormones that promotes insect growth.	Exposition and explanations.		KLB BK III. *PP. 148-149.*	
10-11		*SUMMATIVE ASSESSMENT TEST*					