GOLDEN ELITE EDUCATIONAL PUBLISHERS

SCHEME OF WORK FORM TWO AGRICULTURE TERM ONE YEAR 2022

WK NO	L/ NO.	TOPIC/ SUBTOPIC	LESSON / SPECIFIC OBJECTIVES	TEACHING / LEARNING ACTIVITIES	MATERIALS / RESOURCES	REF.	REMARKS
1	1	**INORGANIC FERTILIZERS** Macro-nutrients. Nitrogen.	To identify plants macronutrients. To classify macro-nutrients as fertilizers and liming elements. To identify role of nitrogen in plants. To state symptoms of nitrogen deficiency in plants	List down macro-elements. Q/A: Definition of an ion; expose ionic form of elements. Discuss, giving examples the role of nitrogen and the deficiency symptoms.	Yellowish-green / brown leaves.	KLB BK II 1-2	
	2	Phosphorus. Potassium.	To identify role of phosphorus in plants. To state symptoms of phosphorus deficiency in plants. To identify role of potassium in plants. To state symptoms of potassium deficiency in plants.	Discuss, giving examples the role of phosphorus and the deficiency symptoms of phosphorus. Discuss, giving examples the role of potassium and the deficiency symptoms.	Purple flowers. Curled leaves, Chlorotic leaves.	KLB BK II Pgs 2-3	

	3	Magnesium. Calcium.	To identify role of magnesium in plants. To state symptoms of magnesium deficiency in plants. To identify role of calcium in plants. To state symptoms of calcium deficiency in plants.	Discuss, giving examples the role of magnesium and the deficiency symptoms. Discuss, giving examples the role of calcium and the deficiency symptoms.	Thin stems with reduced nodulation. Tomatoes with blossom end rot.	Pgs 4-5	
2	1	Sulphur. Carbon, Hydrogen & Oxygen.	To identify role of sulphur in plants. To state symptoms of sulphur deficiency in plants. To explain the photosynthetic role of carbon, hydrogen and oxygen.	Discuss, giving examples the role of sulphur and the deficiency symptoms. Briefly highlight the role of carbon, hydrogen and oxygen in photosynthesis.		Pg 5	
	2	Micro-nutrients.	To identify plants micronutrients and state their roles. To identify deficiency symptoms of minor nutrients in plants.	Q/A: Compare micronutrients with macronutrients hence define a micronutrient. Exposition: Teacher gives examples of micronutrients and exposes their roles and deficiency symptoms.	Chart: Macronutrients, micronutrients, their ionic forms and deficiency symptoms.	Pg 6	

	3	Classification of Fertilizers. Straight and compound fertilizers.	To identify criteria used to classify inorganic fertilizers. To distinguish between straight and compound fertilizers. To give examples of: - Straight fertilizers. - Compound fertilizers.	Teacher briefly exposes the classification criteria. Detailed discussion. Teacher presents the fertilizers and helps students to identify them.	CAN ASN SA DAP, MAP, Urea.	Pg 8	
3	1	Nitrogenous fertilizers.	To state characteristics of nitrogenous fertilizers.	Group experiments- Dissolving nitrogenous fertilizers in water. Discussion: Other characteristics of nitrogenous fertilizers. Giving examples of nitrogenous fertilizers.	$(NH_4)_2 SO_4$ ASN	Pg 9-10	
	2	Phosphatic fertilizers.	To state characteristics of phosphatic fertilizers. To give examples of phosphatic fertilizers.	Group experiment: Dissolving SSP in water and carrying out litmus tests. Discuss further properties of SSP, DSP, TSP.	SSP DSP TSP	Pg 1-12	
	3	Potassic fertilizers.	To state characteristics of potassium fertilizers. To give examples of potassium fertilizers.	Group experiments: Solubility in water, litmus tests. Discuss properties of KCl, K_2SO_4.	KCl K_2SO_4	Pg 11-12	

4	1	Fertilizer Application.	To describe methods of fertilizer application.	Q/A: Teacher elicits responses on methods of fertilizer application. Brief discussion of the methods highlighted. Q/A: Advantages and disadvantages of each method.		Pg 12-13	
	2	Fertilizer Rates.	To determine % of nutrient(s) of a fertilizer. To calculate fertilizer ratio. To find the amount of fertilizer required per unit area (hectare).	Problem solving and explanations. Worked examples. Supervised practice.		Pg 14-15	
	3	Carbon cycle and Nitrogen cycle.	To explain ways in which carbon / nitrogen is removed / returned to the atmosphere.	Assignment method / Group discussion.	Charts: Carbon cycle Nitrogen cycle.	Pg 16-20	
		Soil Sampling.	To define soil sampling. To state methods of sampling soil. To describe soil sampling procedures.	Expositions & Detailed discussion.	Charts: Transverse and ziz-zag soil sampling methods.	Pg 20-22	

5	1	Soil Testing. **CROP PRODUCTION** Seeds.	To define soil testing. To explain importance of soil testing. To test soil pH. To explain effect of soil pH on crops.	Q/A: Definition and importance of soil testing. Q/A: Definition of pH in terms of acidity / alkalinity. Class standard experiments: Determining soil pH. Discussion: Optimum pH range for crops.	Litmus paper, indicators, pH colour chart.	Pg 22-24	
			To state advantages and disadvantages of using seeds as planting materials.	Teacher broadly classifies planting materials as either seeds or vegetative materials. Q/A: Advantages and disadvantages of using seeds compared to vegetative materials.		Pg 27-28	
	2	Vegetative materials.	To state advantages and disadvantages of using vegetative materials over seeds.	Q/A: Advantages of vegetative materials over seeds.		Pg 28-34	
	3 DAY MID-TERM BREAK						

6	1	Vegetative planting materials.	To identify plant parts used for vegetative propagation.	Present various parts of vegetative planting materials i.e. bulbils of sisal/ splits of grass/ pyrethrum, banana/ sisal suckers, Irish potato tubers, potato vines, and sugarcane setts.	Bulbils of sisal/ splits of grass/ pyrethrum, banana/ sisal suckers, Irish potato tubers, potato vines, and sugarcane setts.	Pg 28-34	
	2	Selection of planting materials.	To explain factors to consider when selecting planting materials.	Detailed discussion with explanations of new concepts.		Pg 34	
	3	Preparation of planting materials.	To explain some methods used to prepare planting materials.	Detailed discussion on breaking seed dormancy, chemical treatment, seed dressing and seed inoculation, chitting / sprouting.		Pg 35	
7	1	Time of planting.	To explain factors to consider in timing planting. To identify advantages of timely planting.	Q/A and brief discussion.		Pg 38	
	2,	Broadcasting method of planting. Row planting.	To identify advantages and disadvantages of broadcasting method. To state advantages and disadvantages of row planting.	Brief discussion. Give examples of crops planted by broadcasting. Q/A: Advantages and disadvantages of row planting.		Pg 39-40	

		Over-sowing and under-sowing.	To distinguish over-sowing form under-sowing.	Brief discussion. Give examples of such crops.		Pg 40	
	3	Spacing of crops.	To explain the importance of correct spacing of crops. To explain factors that influence crop spacing.	Q/A and discussion. Importance and factors.	Chart: Average inter-row and intrarow spacing of common crops.	Pg 40-41	
		Plant population.	To determine plant population in a given size of land.	Q/A: Inter-conversion of metric units. Worked examples.		Pg 42-43	
8	1	Seed rate.	To define optimal seed rate of a given crop. To explain factors to consider in choosing seed rates.	Explanations and detailed discussion.		Pg 43	
	2,3	Depth of planting.	To explain determinants of correct depth of planting.	Q/A & Detailed discussion. Field activity: planting crops to the correct spacing. Supervised field activities.		Pg 43-44	

9	1,2	**CROP PRODUCTION III (NURSERY PRACTICES)** Establishing a nursery.	To differentiate between a nursery and a seedbed. To explain the importance of a nursery in crop propagation. To enumerate factors considered when siting a nursery.	Q/A and explanations. Activity- Establishing a (vegetative) nursery / tea sleeves / sugarcane setts.	School farm.	Pg 46-48	
	3	Nursery management practices.	To identify important nursery management practices and state their significance.	Q/A and explanations. Expose new concepts e.g. hardening off.	School farm.	Pg 48-50	
10		END OF TERM ONE EXAMINATIONS					

TERM TWO YEAR 2022							
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1	1	**CROP PRODUCTION III (NURSERY PRACTICES)** Grafting.	To define grafting. To describe methods of grafting.	Teacher demonstration/ illustration of whip grafting, side grafting, bark grafting. Out - door activity: Students practise grafting.	Grafting tools.	KLB BK II Pg 53-55	
	2	Budding.	To define budding. To describe methods of budding. To explain importance of grafting and budding.	Teacher demonstrations/ illustrations/ drawing diagrams. Discussion: Types of budding.		Pg 55-58	
		Layering.	To define layering. To identify appropriate crops for layering. To describe methods / types of layering.	Teacher demonstrations/ Illustrations/ Drawing diagrams. Out-door activity: Carrying out layering.		Pg 58-60	
		Tissue culture for crop propagation.	To define tissue culture. To describe the process of tissue culture. To explain importance of tissue culture in crop propagation.	Teacher exposes new concepts. Brief discussion on tissue culture.	Suitable crops.	Pg 60-63	

2	1	Transplanting crop seedlings.	To describe the process of transferring seedlings from the nursery to the field. To explain management practices before, during and after transplanting crop seedlings.	Q/A, Explanations and brief discussion. Activity: Transplanting crop seedlings.	Suitable crops.	Pg 61-62	
	2	Transplanting tree seedlings.	To explain management practices before, during and after transplanting tree seedlings.	Q/A, Explanations and brief discussion. Activity: Transplanting tree seedlings.	Suitable seedlings.	Pg 63	
		CROP PRODUCTION IV (FIELD PRACTICES) Crop rotation.	To give the meaning of crop rotation. To give examples of crop rotation cycles.	Q/A, brief illustrations of cycles of crop production.	Illustrative charts.	Pg 67	
	3	Importance of crop rotation.	To explain the importance of crop rotation. To give examples of rotational programmes.	Brief discussion; with reference to rotational programmes.		Pg 68-70	
		Mulching.	To define mulching. To state advantages and disadvantages of mulching.	Q/A Brief discussion.		Pg 71-72	

3	1	Thinning, Gapping and Rouging.	To explain importance of thinning, gapping and rouging.	Brief discussion.		Pg 73	
	2	Pruning.	To define pruning. To give reasons for pruning. To identify methods for pruning. To identify tools used in pruning.	Q/A Detailed discussion. Teacher demonstration: Correct and incorrect ways of pruning.	Secateurs, twigs, pruning saw, shears, e.t.c.	Pg 74-75	
	3	Pruning tea.	To describe methods of pruning tea.	Teacher demonstration of formative pruning, pegging method, use of rings and pegs, use of fitos, tipping. Probing questions and detailed discussion.	Tea bushes, fitos, pegs.	Pg 76-80	
4	1,2	Pruning coffee.	To identify specific aims of pruning coffee. To describe various methods of pruning coffee.	Illustrative diagrams / Demonstrations on: single / multiple stem pruning, capping and de-suckering of coffee. Probing questions and detailed discussion.		Pg 80-84	

	3	Training.	To define training as a field practice. To explain ways of training crops.	Expository approach: expose meaning of propping, trellising. Q/A and discussion on importance of staking, earthing up.		Pg 85-86	
5	1	Weeds, crop pests and diseases.	To define a weed, a pest, a disease, giving examples. To identify causative agents of plant diseases. To explain the importance of timely control of weeds, pests and diseases.	Brief discussion. Q/A and detailed discussion. on importance of timely control of weeds, pests and diseases.		Pg 87	
		Timing of harvesting.	To explain the stage and timing of harvesting of a crop.	Discussion on factors considered when timing harvesting.		Pg 88-89	
	2	Methods of harvesting.	To briefly describe methods of harvesting of specific crops. To enumerate precautions observed during harvesting.	Give specific examples of methods and precautions observed.		Pg 89	
	3 DAY MID-TERM BREAK						

6	1,2 3	Post-harvest practices. Storage.	To describe various post-harvest practices and their importance. To give characteristics of a good grain store (traditional / modern).	Probing questions and detailed discussion.		Pg 90-94	
7	1	**CROP PRODUCTION V (VEGETABLES)** Tomatoes Ecological requirement and varieties.	To describe ecological requirements and varieties of tomatoes. To identify tomato varieties.	Brief discussion and exposition.		Pg 96-100	
	2	Nursery and field management.	To describe nursery management practices for establishment of tomato seedlings. To describe field management practices for tomatoes.	Q/A and detailed discussion.		Pg 101-104	
	3	Tomato pests and diseases.	To identify tomato pests and diseases and methods of their control.	Detailed discussion of tomato pests and their economic importance.	Tomatoes attacked by various pests and diseases.	Pg 104-106	
8	1	**Cabbages** Ecology and varieties.	To describe ecological requirements for cabbages. To identify cabbage varieties.	Brief discussion and questioning. Exposition.		1pg 107	

	2	**Cabbages** **E**stablishment and management.	To describe nursery management practices. To describe field management practices for proper cabbage growth.	Discuss importance of topdressing, weeding, controlling pests and diseases.	Cabbages attacked by some pests and diseases.	Pg 107-9	
	3	**Carrots** Ecology and varieties. Establishment and management.	To describe ecological requirements for carrots. To describe nursery management practices. To describe field management practices for proper carrots establishment..	Brief discussion and questioning. Exposition. Discuss importance of topdressing, weeding, controlling pests and diseases.	Carrots attacked by some pests and diseases.	Pg 110-111	
9	1	**Onions** Ecology and varieties.	To describe ecological requirements for onions.	Brief discussion and questioning. Exposition.		Pg 111-3	
	2,3	Establishment and management.	To describe nursery management practices. To describe field management practices for proper onions growth.	Discuss important nursery and field practices.	Onions attacked by some pests and diseases.		
10-11		END OF TERM TWO EXAMINATIONS					

TERM THREE YEAR 2022							
WK NO	**L/ NO.**	**TOPIC/ SUBTOPIC**	**LESSON / SPECIFIC OBJECTIVES**	**TEACHING / LEARNING ACTIVITIES**	**MATERIALS / RESOURCES**	**REF.**	**REMARKS**
1	1	**LIVESTOCK HEALTH I (ANIMAL HEALTH)** Introduction. Signs of good health.	To differentiate between health and disease. To explain importance of keeping animals healthy. To explain signs that help to identify a healthy animal.	Q/A: Health and disease; and their economic importance. Discussion: Physical appearance, physiological body functions and morphological conditions of the animal body.		KLB BK II Pg 115-6 Pg 116-8	
	2	Predisposing factors of animal diseases. Causes of animal diseases.	To identify and explain predisposing factors of animal diseases. To describe causes of animal diseases.	Q/A & Detailed discussion. Detailed description of nutritional causes, physical causes and chemical causes.		Pg 119-120	

	3	Bacterial animal diseases.	To identify bacterial diseases of livestock.	Detailed discussion of bacterial diseases and their control.	Chart: Bacterial diseases, causal organism and animals affected.	Pg 122-124	
2	1	Viral animal diseases. Protozoan diseases.	To list down viral diseases of livestock. To list down protozoan diseases of livestock.	Detailed discussion of viral diseases and their control. Detailed discussion of protozoan diseases and their control.	Chart: Viral diseases, causal organism and animals affected. Chart: protozoan diseases, causal organism and animals affected.	Pg 125-6	
	2	Management of diseases.	To explain general methods of diseases control.	Q/A: Control of nutritional diseases. Discussion: Importance of proper housing, isolation / slaughtering of sick animals, imposition of quarantine, prophylaxis, vaccination, vector control, e.t.c.		Pg 125-8	

	3	Handling livestock.	To describe appropriate methods of handling livestock.	Q/A: Handling of animals during treatment, milking, inspecting, e.t.c. Discussion: Other activities necessitating proper handling of animals, i.e. drenching, injecting, controlling mastitis, hand spraying. Q/A: Sites that should be sprayed with acarides.		Pg 129-131	
3	1	**LIVESTOCK HEALTH (PARASITES)** Effects of parasites on animals.	To describe host-parasite relationship. To identify effects of parasites on livestock.	Q/A: Definition of a host, parasite. Brief discussion and give specific examples.		Pg 133-4	
	2	Tse-tse fly.	To describe parasitic effects of tse-tse fly. To explain methods of control of tse-tse fly.	Q/A: Disease transmitted by tse-tse fly; and methods of control of tse-tse fly.		Pg 134-5	
	3	Keds, fleas and lice.	To describe harmful effects of keds, fleas and lice on livestock.	Brief discussion. Q/A: Methods of controlling ectoparasites.		Pg 135-7	

4	1	Ticks. One-host tick.	To list down effects of ticks on livestock. To describe the life cycle of one-host tick.	Q/A: Harmful effects of ticks. Exposition Explanations	Chart-Life cycle od one-host tick.	Pg 138-140	
	2	Two-host tick. Three-host tick. Tick control.	To describe the life cycle of two-host tick. To describe the life cycle of twice-host tick. To explain measures of controlling ticks.	Exposition and explanations. Represent the life cycles diagrammatically. Detailed discussion Assignment.	Chart-Life cycles of ticks.	Pg 141-3	
	3	The tapeworm (Taenia spp).	To describe characteristic features of tapeworm. To identify symptoms of attack by tapeworm.	Exposition: Labelling a tapeworm/ Observing a preserved specimen of a tapeworm.	Preserved specimen of a tapeworm.	Pg 144	
5	2	Lifecycle of a tapeworm.	To describe the lifecycle of a tapeworm. To state control measures of tapeworms in livestock.	Exposition and explanations of the life cycle. Q/A and brief discussion.	Chart- Life cycle of a pork tapeworm.	Pg 147-8	
	2	Roundworms (Ascaris spp).	To identify symptoms of attack by roundworms. To describe the life cycle of a roundworm. To explain measures of controlling roundworm.	Q/A and brief discussion. Detailed discussion of life cycle. Q/A: Measures of control.	Preserved specimen of a roundworm.	Pg 148-151	

	3	Liver fluke.	To identify symptoms of attack by liver fluke. To describe the life cycle of a roundworm. To explain measures of controlling liver fluke.	Q/A and brief discussion. Detailed discussion of life cycle. Q/A: Measures of control.	Chart-Life cycle of a liver fluke.	Pg 151-3	
6	1	**LIVESTOCK PRODUCTION (NUTRITION)** Food components.	To identify the components of food in animal feeds. To state functions of water in an animal. To state functions of carbohydrates, proteins, fats, oils, vitamins, in an animal body.	Use a flow chart to show food components. Q/A and brief discussion Q/A and detailed discussion; sources, deficiency, symptoms	Flow chart-Components of food. Seed cakes, fish meal, bone meal, Lucerne.	Pg 158-64	
	2	Minerals.	To identify important minerals for livestock.	Discussion: Types of minerals, their sources and deficiency symptoms.		Pg 165-169	
	3	Feeds and Feedstuffs.	To differentiate between a feed and a feedstuff. To describe the composition of dry and succulent roughages. To state and explain the composition of energy concentrates and protein concentrates.	Exposition, discussion and giving relevant examples.	Examples of roughages and concentrates.	Pg 169-171	

7	1	Feed additives.	To define feed additives. To give examples of feed additives.	Giving examples of feed additives and description of their importance.		Pg 171	
	2	To concept of rationing. Maintenance ration Production ration.	To define food ration; balanced ration. To define maintenance ration. To state factors affecting maintenance ration. To explain characteristics of a balanced ration.	Detailed discussion. & Probing questions.		Pg 172-3	
	3	Feed digestibility Feed nutritive values.	To define feed digestibility. To calculate % digestibility of a feed. To explain factors affecting food digestibility. To define terms used to express feed value.	Exposition of new concepts. Problem solving discussion. Exposition and discussion of other terms used to express feed value: calorific value, dry matter, starch equivalent, TDN, CP, DCP and CF.	Chart- Nutritive values of some feeds.	Pg 173-4	
	1	Computation of animal feeds. Trial and error method. Pearson's Square method.	To state advantages and disadvantages of trial and error method of computing animal feeds. To compute livestock rations using Pearson's Square method.	Q/A and brief discussion. Exposition- Teacher explains the procedure of computing livestock ration using Pearson's Square method. Worked examples. Supervised exercise.	Calculators..	Pg 176-178	

8	2	General process of digestion. Digestion in non-ruminants.	To describe the general process of digestion. To give examples of mono gastric animals. To describe digestion in mono gastric animals.	Detailed discuss ion of digestion in the mouth, stomach, small intestines and colon. Detailed discussion of digestion in a pig and poultry.	Chart-General digestive system. Charts-Specific digestive systems.	Pg 179-185 Pg 180-186	
	3	Digestion in Ruminants.	To identify the components of the stomach. To state the functions of each compartment. To state differences and similarities between digestive systems of ruminants and non-ruminants.	Students observe the four compartments of a ruminant's stomach. Discussion: Structure and functions of each compartment. Q/A: Students highlight differences and similarities between ruminants and non-ruminants.	Chart-Digestive system of a cow, Pieces of stomach compartments of a cow.	Pg 187-8	
9-10		END OF TERM THREE EXAMINATIONS					