527/1
AGRICULTURE
Paper 1
2024

UGANDA NATIONAL EXAMINATIONS BOARD

Uganda Certificate of Education

AGRICULTURE

Paper 1
Theory

SCORING GUIDE

527/1 Agriculture theory sample responses

1(a). Sample *Expected responses*

Plot A (Elephant grass) – silage
Identify the material, tools and equipment (panga, molasses, silage storage, tarplin, jerrican, basins, watering can, and personal protective equipment PPE)

- ✓ *Put on the personal protective equipment to protect yourself from injury.*
- ✓ *Use a panga to cut/harvest the pasture to ensure efficient harvesting.*
- ✓ *Spread the harvested pasture on a clean floor/tarpaulin to wilt to reduce moisture content that may cause rotting during processing.*
- ✓ *Chop the pasture into small pieces to increase surface area for bacterial action during fermentation.*
- ✓ *Pack tightly/press/compress appropriate material in a silo to create an anaerobic condition for fermentation as you sprinkle molasses to increase fermentation process.*
- ✓ *Seal the material to prevent contamination by other materials and entry of air.*
- ✓ *For a pit silo, dig a trench around to lead away running water that may spoil the silage.*

PLOT B (Congo signal grass) – hay)
Identify the material, tools and equipment (panga, tarpaulin, baler, ropes and personal protective equipment PPE)

- ✓ *Put on the personal protective equipment to protect yourself from injury.*
- ✓ *Use a panga to cut/harvest the pasture to ensure efficient harvesting.*
- ✓ *Spread the harvested pasture on a clean floor/tarplin to wilt to prevent rotting and contamination.*
- ✓ *Bale the hay into bundles to prevent wastage.*
- ✓ *Pack the hay bales in a clean and leak proof store to keep hay dry and in good condition for a long time.*

1(b) sample expected responses

- ✓ *Land fragmentation – land consolidation to bring pieces of land under one block for easy management.*
- ✓ *Poor saving culture – forming saving groups to encourage members to save and invest.*

- ✓ *No banking of money – opening savings accounts in financial institutions to keep money safely before investment.*
- ✓ *No record keeping – keeping records to keep track of spending and sales.*
- ✓ *Farmers not working as a group – forming cooperatives/self-help groups so that farmers can join efforts to solve their problems.*
- ✓ *Buying input at a high price – buying in bulk as a group to reduce the unit cost of farm inputs.*

2. Sample *Expected responses*

- ✓ *Steep slope – terracing to reduce slope gradient and erosion.*
- ✓ *Rocky – planting trees to cause weathering that will produce new soil.*
- ✓ *Shallow soils – deep cultivation/sub-soiling to improve drainage and planting depth.*
- ✓ *Fairly fertile soils – addition of manure or artificial fertilizers to raise fertility to the required level.*
- ✓ *Compact – deep cultivation, addition of manure, marling, liming to loosen soil and improve soil structure.*
- ✓ *Sticky – liming, marling, addition of organic manure to loosen soil and improve its structure.*
- ✓ *Flooded soils – drainage, sub-soiling, addition of organic manure to remove excess moisture and improve soil structure.*

3. Sample expected responses

- ✓ *Blown off roof of calf pen - Renovation / repairing the calf pen (re-roofing) to protect calves from rain and sunshine.*
- ✓ *Worm infestation - Deworming -to kill internal parasites.*
- ✓ *Poor pastures - Planting high quality pastures/improving pastures/ supplementary feeding to improve nutrition of animals.*
- ✓ *Unprotected and dirty water source - Fencing the water source, planting the grass around the water source, de-silting of the water source to ensure clean water source for animals.*
- ✓ *Injured teats - Treating cracked teats with recommended medication (all preventive measures of cracks on teats) e.g. applying milking salve to reduce friction on the teats and to heal teats.*

- ✓ *Dirty/soiled animals - grooming cows before milking, using clean filter to milk, putting on protective gear e.g. cap by a milker man to prevent hair and other dirt from falling into the milk.*
- ✓ *Use of wrong equipment - Select and use appropriate equipment for mixing acaricide e.g. spray pump, knapsack sprayer to ensure efficient treatment of animals.*

4. Sample Expected Responses

- ✓ *Fencing* off the poultry farm to prevent spread of diseases from other farms.
- ✓ *Vaccinating* birds to control diseases.
- ✓ *Deworming* birds to control internal parasites.
- ✓ *Disinfecting* the poultry house, tools and equipment to prevent the spread of diseases.
- ✓ *Providing* a footbath to prevent the spread of diseases.
- ✓ Ensuring proper ventilation of poultry house to prevent respiratory *infections*.
- ✓ *Providing* clean feeds and water to ensure birds stay healthy.
- ✓ *Providing* a balanced ration for birds to ensure fast and healthy birds.
- ✓ *Providing* adequate space for birds in the poultry house to reduce overcrowding and ensure the birds move freely.
- ✓ *Regulating* the entry of visitors into the farm to prevent introduction of diseases into the farm.
- ✓ *Isolating* and treating sick birds to prevent the spread of diseases.
- ✓ Selecting good/viable/high quality eggs for hatching to ensure *hatching* of healthy chicks.
- ✓ *Providing* optimum temperature for hatching to ensure successful hatching.
- ✓ *Turning* the eggs to ensure successful hatching.
- ✓ *Providing* optimum humidity in the hatchery to ensure successful hatching.

5. Sample Expected responses

- ✓ *Obtain* clean planting materials to produce healthy plants.
- ✓ Obtain planting materials from reliable sources to ensure they are *healthy*.
- ✓ Plant a *resistant* variety to prevent crop disease infections.
- ✓ Proper *seedbed* preparation to ensure proper sprouting of the cuttings.
- ✓ Use *recommended* spacing to provide crop plants with enough growing space.
- ✓ Gap *filling* to maintain the correct plant population in the field.
- ✓ Weed *the* crop at least twice to reduce competition for nutrients and the spread of diseases.
- ✓ *Harvest* at the correct stage of maturity to ensure high quality and quantity of product.
- ✓ Use a *hand* hoe to carefully remove soil to expose the tuber which is dug out to prevent damage/injury to tubers.
- ✓ *Carefully* lift the tubers from the soil and place gently on the ground or in a container to prevent bruising or damaging them.
- ✓ Use *recommended* length of stem cutting to ensure proper sprouting.

6. Sample Expected responses

- ✓ *Broadcast* too many seeds – place seeds/sprinkle seeds along drills/furrows in the nursery bed to prevent overcrowding of seedlings.
- ✓ *Overcrowding* of seedlings – thin seedlings/prick out to reduce competition for space and nutrients.
- ✓ *Seedlings* not hardened off – reducing watering and shade to
- ✓ gradually expose seedlings to field conditions.
- ✓ Wrong *time* of transplanting – transplant seedlings in the morning or evening to prevent wilting of seedlings.
- ✓ Empty *spaces* within rows – gap fill to ensure correct plant population
- ✓ *Occurrence* of pests and diseases – carry out pest and disease control measures to *prevent* yield reduction.
- ✓ Too many *branches* and leaves on surviving plants - prune plants to allow them grow to the desired shape.
- ✓ Delayed *harvesting* – harvest fruits before they are fully ripe so that they can be kept in good condition for a longer time.
- ✓ Use of *unsuitable* containers/bags to keep fruits during harvesting - use open and well-ventilated containers to keep fruits in good condition.