END OF TERM EXAM
FORM TWO
AGRICULTURE
MARKING SCHEME

1. **Ways in which agriculture contributes to industrial development**
   (i) Agriculture supplies raw materials to industries
   (ii) Agriculture provides a market for industrial goods
   (iii) Agriculture provides capital for establishment of industries

2. **Tertiary operations carried out during land preparation**
   (i) Rolling
   (ii) Ridging
   (iii) Levelling
3. **Livestock disease transmitted by each of the following**
   (a) Blue tick –gal sickness
   (b) Brown ear tick-East Cost Fever, Nairobi sheep disease, theileriosis
   (c) Tsetse fly-trypanosomiasis or nagana
4. **Tools used in handling livestock during an agricultural exhibition**
   (i) Halter
   (ii) Rope
   (iii) Bull-ring and lead stick
5. **Ways in which proper nutrition helps to control livestock diseases**
   (i) Preventing nutritional deficiency diseases
   (ii) Builds up immunity of an animal making it resist diseases
6. **Properties of clean and safe water for domestic use in the farm**
   (i) Free from bad smell and taste
   (ii) Free from disease causing micro-organisms
   (iii) Free from physical impurities such as solid particles
   (iv) Free from chemical impurities
7. **Qualities that are considered when grading tomatoes for fresh market**
   (i) Skin thickness or keeping quality
   (ii) Shape of the fruit
   (iii) Size of the fruit
   (iv) Degree of ripeness of the fruit
   (v) Level of damage to the fruits
8. **Correct names used for the following routine practices**
   (a) Removal of extra suckers in a banana stool- pruning
   (b) Removal of old stems down to the level of top foliage in pyrethrum-cutting back
   (c) Removal of suckers in coffee bushes- pruning// de-suckering
   (d) Removal and destruction of infected plants and plant parts-rogueing
9. **Dual purpose breed of sheep**
   (i) Romney mash
   (ii) Hampshire down
   (iii) Corriedale
10. **Non-pathogenic causes of livestock disease**

(i) Poor nutrition//nutritional disorders//deficiency
(ii) Physical injuries
(iii) Parasite infestation
(iv) Food poisoning
(v) Physical causes such as hernia, prolapse, obstruction and excess heat

11. Ways of applying fertilizers in the field of horticultural crops

(i) Broadcasting
(ii) Hole placement
(iii) Foliar spraying
(iv) Top dressing/side/ basal placement
(v) Drip application

12. Farming practices that help in achieving minimum tillage

(i) Establishment of cover crops
(ii) Use of herbicides to control weeds
(iii) Timely cultivation
(iv) Restricting cultivation to where the seeds are to be planted
(v) Uprooting or slashing weeds

13. Reasons why most farmers do not use green manure for crop production

(i) Most crops used for green manure are food crops
(ii) Green manure crops use most of the moisture and leave very little for the main crop
(iii) Decomposers use most of the soil nutrients during decomposition reducing soil fertility
(iv) Green manure takes time to decompose delaying planting time

14. Beneficial effects of soil organisms for plant growth

(i) They decompose organic matter increasing soil fertility
(ii) Help to aerate the soil
(iii) Convert atmospheric nitrogen into nitrates improving fertility
(iv) On death, decomposers release nutrients into the soil

15. Practices carried out during the hardening off in tomato seedlings

(i) Gradual reduction of shade
(ii) Gradual reduction of watering

16. Use of each of the following tools

(a) Spoke shave –used to smoothen round surfaces
(b) plumb bob -used to determine the verticalness of the wall during construction

17. Advantages of raising seedlings in polythene sleeves

(i) rooting system is not disturbed during transplanting
(ii) seedlings can be transported for longer distances without damage
(iii) seedlings grow faster
(iv) reduce incidences of overcrowding
(v) possible to plan when to transplant

18. Benefits of practicing crop rotation

(i) It controls soil erosion
(ii) It controls crop pests and diseases by breaking their life cycle
(iii) It ensures maximum utilization of plant nutrients by crops
(iv) It controls weeds especially parasitic weeds

(v) It improves soil structure where pasture ,hey or grass is included

19. Complementary tools for

(i) Trocar- canula
(ii) Hand drill- bits

20. Benefits of liming in crop production

(i) Increase soil pH
(ii) Adds magnesium and calcium to the soil
(iii) Increases cation exchange capacity
(iv) Influences microbial activity

21. Explanation of the following terms as used in fertilizers

(a) Fertilizer grade-this is the amount of each nutrient contained in a fertilizer
(b) Fertilizer ratio-this is the relative proportion of the three primary macro-elements present in a particular fertilizer

22. Predisposing factors to livestock diseases

(i) Age of the animal
(ii) Colour of the animal
(iii) Breed of the animal
(iv) Sex of the animal
(v) Environmental conditions

23. Ways by which diseases can be passed from one animal to another

(i) Ingesting infected materials
(ii) Inhaling infected air
(iii) Through vectors
(iv) Through mating with infected animals
(v) Through open wounds

24. Insect parasites that attack livestock

(i) Fleas
(ii) Keds
(iii) Tsetse flies
(iv) Lice
(v) Mosquitoes

25. Conditions that encourage damping-off disease in a nursery bed

(i) Overcrowding
(ii) Very dark shade
(iii) Very low shading structure

SECTION B 20 MARKS

26. (a) parasite E and F

E-tapeworm
F-liver fluke

(b) Organ in which each of the parasite is commonly found

Parasite E-small intestine
Parasite F-liver

(c) Intermediate host of the parasite labelled E

(i) Pigs
(ii) Sheep
(iii) Cattle

27. (a) Method of drainage illustrated

Use of Underground perforated pipes

(b) Reasons for draining the soils

(i) To increase the soil volume
(ii) Regulate soil temperature
(iii) Increase microbial activities
(iv) Remove toxic substances

(c) Other methods of draining water logged soils

(i) Pumping the water out
(ii) Use of French drain
(iii) Open ditches

28. **(a) Crop pest illustrated above**

American bollworm

(b) Damage caused by the pest to the crop

Make holes in the fruit as they feed with their heads inside the fruit

(c) Ways of controlling the pest

(i) Spraying with appropriate insecticide
(ii) Crop rotation

(d) Other pests that attack the crop

(i) Mouse bird
(ii) Red spider
(iii) Mites
(iv) Cutworms
(v) nematodes

29. (a) Vegetative propagation materials represented in diagrams Q and P

P-sucker
Q- Bulb

(b) crop propagated by the material labelled P and Q

P-bananas, sisal, pineapples
Q-bulb onion

(c) other materials that propagate onions

(i) splits for spring onions
(ii) seeds

SECTION C 40 MARKS

30. (a) factors that are considered when siting a vegetable nursery bed

(i) Well sheltered place-under a shade to prevent direct heat from the sun from scorching the seedlings
(ii) Security-well secured to prevent stealing of seedlings
(iii) Nearness to water source-near to water source for regular watering

(iv) Type of soil-fertile, deep and well-drained soil for vigorous growth of seedlings
(v) Previous cropping-where crops of the same family have not been planted for the last three years to avoid attack by similar pests and diseases
(vi) Proximity- close to the seedbed for easy transportation

(b)How the following environmental factors influences crop production

(i) Temperature

- Low temperature slows down growth of crops hence delaying maturity
- Low temperature improve the quality of some crops such as pyrethrum
- Low temperatures may increase incidences of some crop diseases such as CBD
- High temperatures increase growth rate of some crops leading to early maturity
- High temperatures increase incidences of some crop pests such as aphids
- High temperatures increase the surface area for evaporation leading to wilting

(iii) Wind

- Causes lodging in cereals
- Blows away and brings rain-bearing clouds
- It is an agent of soil erosion
- It is an agent of seed and fruit dispersal
- Increases rate of evapotranspiration
- Increases spread of pests and diseases
- Destroy farm structures

(d) Advantages of mulching

(i) moderates soil temperature conserving soil heat
(ii) controls soil erosion by reducing the force of rain drop
(iii) smoothers weeds by suffocating them
(iv) organic materials decompose thus increasing soil fertility
(v) conserves soil moisture by reducing evaporation

31. Production of tomatoes under the following sub-headings

(a) land preparation

(i) ploughing is done early before the onset of rains
(ii) clear all the vegetation and remove all tree stumps
(iii) plough deep to remove all the perennial weeds
(iv) harrow to medium tilth
(v) prepare planting holes 5cm deep at a spacing of 90cm x60cm

(b) Transplanting

(i) apply a handful of organic manure or a table spoonful of DSP fertilizer in planting holes
(ii) transplant seedlings when they are 4-6 weeks or 4-6 true leaves or when they attain a height of 10-15cm
(iii) water the nursey thoroughly two hours before transplanting time
(iv) transplant on a cool cloudy day or late in the evening
(v) select only the healthy and vigorously growing seedlings
(vi) use a garden trowel to lift the seedlings with a lump of soil around the roots
(vii) plant at the same depth as they were in the nursery bed
(viii) mulch the seedlings and water them

(c) Field management practices

(i) gapping is done to replace the seedlings that died so that to maintain the plant population
(ii) water regularly especially during the dry season
(iii) top dress using CAN when the crop attains 25cm height
(iv) mulch to smoother weeds, conserve moisture and control erosion
(v) stake the long varieties using a 2cm stick
(vi) prune to prevent overcrowding and increase yields
(vii) control pests e.g. American bollworm and disease
(viii) control weeds appropriately

(d) Diseases that attack tomatoes

(i) late blight
(ii) early blight
(iii) blossom end rot
(iv) bacterial wilt
(v) fusarium wilt