

MARKING SCHEME

AGRICULTURE 443/1 PAPER 1

END OF YEAR EXAMINATION 2026

FORM 3

SECTION 30 MARKS (ANSWER ALL QUESTIONS)

1. Define the term domestication as used in Agriculture (1 marks)

A gradual process over a long period of time in which manmade crops and animals dependent on him for their requirements

(1mark)

2. List four disadvantages of shifting cultivation. (2 marks)

Total yield per unit area is low

A lot of time is wasted during movement/building new structures.

Low incentives to develop land.

Low incentive to conserve soil and water.

Not applicable where land is small.

(1/2*4=2marks)

3. State three disadvantages of burning as a method of bush clearing (1 ½ marks)

Soil structure is destroyed.

Soil microorganisms/decomposers are destroyed.

Soil humus is destroyed.

Soil mineral matter is destroyed

Causes volatilization of soil nutrients

Ash raises soil pH

(1 ½*3=1 ½marks)

4. List four factors that determine the number of secondary cultivation operations carried out in a seedbed before planting (2marks)

Size of the seed

slope of the land

moisture content of the soil

condition of the soil after primary cultivation

(½*4=2marks)

5. state two maintenance practices done on sprinklers used for overhead irrigation. (½*2=1)

lubricate the moving parts

clean blocked nozzles

repair broken parts

(1/2*2=1mark)

6. state four importance of drainage before establishing a crop in water logged soil {2marks}

To increase soil aeration

- To increase soil volume
- To raise soil temperature.
- To remove toxic substances
- To increase microbial activity
- To reduce soil erosion

(1/2*4=2marks)

7.state four factors that influence the choice of crops used for green manure (2marks)

- Should be highly vegetative/leafy
- Should have fast growth
- Should be fast rotting
- Should be capable of growing in poor soils/hardy
- Should have high nitrogen content/leguminous

(1/2*4=2marks)

8.list four importance of farm records (2marks)

- Shows the history of the farm
- Help to calculate the farm value/valuation
- Help to detect losses/theft in the farm
- Helps to determine if farm is making a profit or a loss
- Enable determination the income tax charged in the farm
- Help to compare performance of enterprises within and others in other farms.

(1/2*4=2marks)

9.state four factors that influence the choice of inorganic fertilizer used during crop production (2marks)

- Soil Ph/soil Acidity/soil chemical reaction
- Weather conditions/time of application
- Crop grown
- Physical conditions of the soil/soil structure
- Nutrients composition
- Form of application

(1/2*4=2marks)

10.state four conditions when seed rate used is usually high (2marks)

- When germination rate is low/low pure germinating seeds
- When seed purity is low/seeds are contaminated
- When fodder crop is grown/when fodder other than grain is grown
- When number of seeds per hole is high
- When spacing is close/reduced

(1/2*4=2marks)

11. list four practices that ensure uniform germination of seeds in crop establishment (2marks)

Seeds must be of same age

Seeds should be free of pests/diseases

Uniform tilth

Uniform depth of planting

Soil have uniform moisture/irrigate uniformly

Treat seeds to break dormancy

Plant seeds at the same time

(1/2*4=2marks)

12. state four conditions that would allow planting seeds deeper in the soil (2marks)

Light /sandy soils

Dry soils

Large seeds

Hypogeal germinating seeds

(1/2*4=2marks)

13. Name two ways of treating seed potatoes before planting (2marks)

Chitting /breaking dormancy

Seed dressing

Seed cleaning

(1/2*2=1marks)

14. state four reasons for the selection of a nursery site (2marks)

Near a water source for easy watering

Gentle sloping land to avoid flooding

Secure place to avoid theft/destruction by animals

Well sheltered place to avoid destruction by strong winds/excessive evapotranspiration

Different previous cropping to avoid buildup of pests and/ diseases

(Reason underlined must be given)

(1/2*4=2marks)

15. Outline four reasons for grafting in citrus trees (2 marks)

Facilitates changing of the top of a tree from undesirable to desirable

Shorten maturity age/time

Help to repair damaged plants

Help to propagate clones

Enable growing of more than one type of fruit in one tree

Utilizes superior /disease resistant/pest tolerant/ecologically adapted rootstocks but with undesirable products/ fruits to propagate desirable products/fruits

1/2*4=2 marks)

16.state four management practices carried out on tree seedlings after transplanting(

Protection against damage/pest control

Fertilizer application

Disease control

(1/2*3=1 1/2marks)

17.name the types of vegetables listed below

Spinach _____ leaf _____ (1/2mark)

Spring onion _____ bulb _____ (1/2mark)

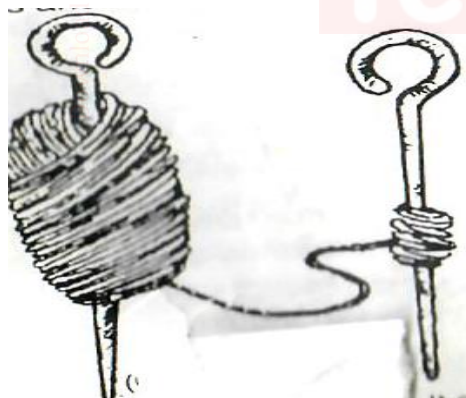
Radish _____ root _____ (1/2mark)

Tomatoes _____ fruit _____ (1/2mark)

(1/2*4=2marks)

SECTION B (20 MARKS)ANSWER ALL THE QUESTIONS

18.The diagram below shows a farm tool,



Name the above tool

(1mark)

_____ garden line _____ (1mark)

State two functions of the tool

(2marks)

Used to show a straight course /row planting _____

1mark)

Used in measurement between one plant and the next

(1mark)

state two maintenance practice carried out on the tool

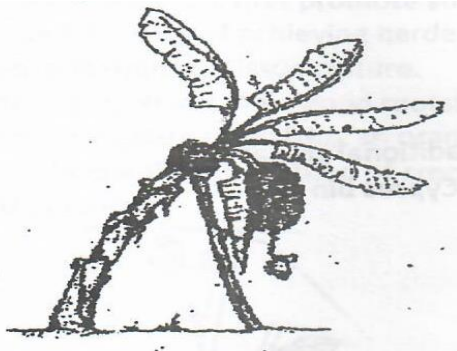
(1mark)

replace broken/cut/worn out string(twine)

keep tool away from rain/water/damp conditions

(2marks)

19.the diagram below illustrates a field practice, study it carefully and answer the questions that follow



a. Name the practice shown

(1mark)

propping

(1mark)

b. State two reasons for carrying out the practice

(2marks)

prevent the stem from breaking/falling

to carry out management practices /spraying/pruning easily

enable proper development of bunches

(2marks)

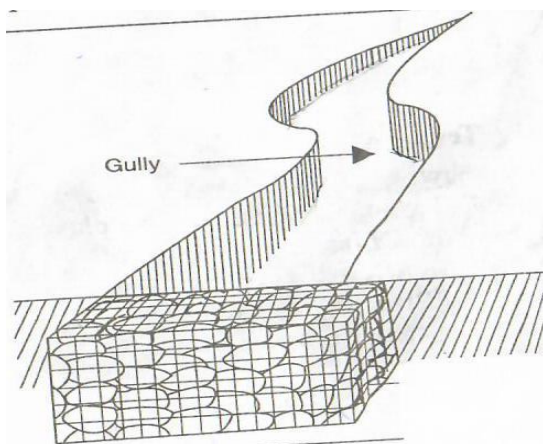
c. Name two similar practices carried out in crop production

staking

trellising

earthing up(2marks)

20.the diagram below shows a soil conservation structure



identify the structure above

gabion

(1mark)

Give two importance of the structure above
 slows speed of water reducing erosive power
 traps soil thus conserve it

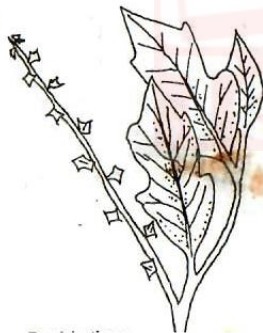
(2marks)

C. State two ways in which the above structure can be improved to become more efficient

- i)vegetate/plant grass/trees
- ii)divert the water to a cutoff drain

(2mark)

20.the diagrams below show weeds found in a field of cultivated crops labeled A and B



A



B

a.Name weed A and B

A _____ (1mark)

B _____ (1mark)

ADOUBLE THORN

(Oxygonumsinuatum)

(1mark)

NUT GRASS /SEDEGE GRASS

Cyperusrotundus

(1mark)

b.state the harmful effect of the weeds

A _____ (1mark)

B _____ (1mark)

A-Has thorns that prick/irritate workers

(1mark)

B-Reduce palatability of pastures/hard to feed on

Reduces the life span of the pasture stand (1mark)

c.state one reason why it is difficult to control weed B (1Mark)

has underground bulbs/ perrenating parts that are difficult to eliminate (1mark)

SECTION C ANSWER ANY TWO QUESTIONS (40 MARKS)

21.a state and explain the importance of crop rotation (10marks)

- i. Maximum utilization of nutrients whe deep rooted are alternated with shallow rooted crops
- ii. Controls soil borne pests and diseases by breaking life cycleswhen host crop is absent
- iii. Controls parasitic weeds/weeds when host crop is absent
- iv. Improves soil structure when a grass ley is included
- v. Improves soil fertility when leguminous plants are included
- vi. Controls soil erosion when a cover crop is included

(stating 1 mark explanation 1mark=10marks)

b. state five reasons for practicing minimum tillage (5marks)

- i. Reduces cost of cultivation
- ii. Controls soil erosion
- iii. Maintains soil structure
- iv. Conserves soil moisture
- v. Prevents root disturbance
- vi. Prevents exposure of humus to adverse conditions

(1*1mark=5marks)

c. list five physical methods of pest control (5marks)

- i. use of lethal/high temperature
- ii. proper drying of the produce
- iii. flooding
- iv. suffocation
- v. physical destruction
- vi. use of scare crows
- vii. use of physical barriers use of electromagnetic radiation

(1*1marks=5marks)

22a.explain five ways through which soil losses fertility (10marks)

- i. Leaching when mineral ions move deeper beyond the reach of many plant roots
- ii. Soil erosion which removes the top fertile soils
- iii. Monocropping /monoculture which exhausts certain nutrients required by specific crops
- iv. Continuous cropping which removes most nutrients from the soil
- v. Alter/change in soil pH affecting activities of soil microorganisms/preventing availability of soil nutrients
- vi. Burning of vegetation cover exposing the fertile top soil to erosion agents
- vii. Accumulation of salts increasing salinity causing wilting

(stating 1 mark explanation 1mark=10marks)

b. State five advantages of land consolidation in agricultural production (5marks)

- i. Proper supervision of the land
 - ii. Economic use of time /saves transport costs
 - iii. Easy to get advice from extension officers
 - iv. Encourages construction of permanent structures
 - v. Ensures sound/proper farm planning in soil conservation, land improvement
 - vi. Encourages mechanization/large scale farming
 - vii. Enhances weed /pest /disease control
- (1*1mark=5marks)

C .i)Name two types of mulching materials used in crop production (2marks)

- i. organic
 - ii. inorganic
- (1*1 mark =2marks)

ii) State three advantages of mulching (3marks)

- i. maintains/conserves soil moisture /reduce excess evaporation
- ii. regulates/modifies/ moderates soil temperature
- iii. slows speed of surface runoff thus reduced soil erosion
- iv. smoothers growth/suppresses growth/covers soil preventing emergence of weeds
- v. improves soil structure/fertility when it decompose

23. Discuss cabbage production under the following subheadings

a. I) Transplanting (6 marks)

- i. water nursery bed three hours before transplanting
- ii. transplant late in the evening/cloudy day/when weather is cold
- iii. select healthy/ vigourously growing/strong seedlings
- iv. select seedlings with six true leaves/after one month
- v. lift seedlings with a lump of soil/without root disturbance
- vi. plant at the same depth as they were at the nursery
- vii. firm around the base of each seedling
- viii. water after transplanting

II). cabbage pests and their control (4marks)

- i. aphids- spray with appropriate insecticides/pesticides
 - ii. cutworm- apply appropriate pesticide in each hole at transplanting
 - iii. sawfly - spray with appropriate insecticides/pesticides
- (stating 1 mark explanation 1mark)

B .state and explain biotic factors that affect agricultural production (10marks)

- i. pest- feed on whole or part reducing quantity and quality/ pierce,suck,chew plant parts transmitting diseases
- ii. parasitessuck fluids from host causing anaemia in animals/retarded growth
- iii. decomposers act on plant and animal remains forming humus/improving soil fertility
- iv. pathogens cause diseases in plants and animals
- v. predators kill and feed on other animals reducing livestock produce

- vi. pollinators transfer pollen grain enabling cross pollination/hybrid vigour
- vii. nitrogen fixing bacteria fix atmospheric nitrogen improving soil fertility
(stating 1 mark explanation 1mark)

