

BUKAKA CLUSTER EXAMINATIONS

AGRICULTURE PAPER

END OF TERM 1, 2025

FORM 4

MARKING SCHEME

1. (a) – growing of crops and rearing of livestock in the same piece of land and at the same time
 (b) Have a fine texture with no sliminess
 Free from moulds and bad smell
 Be from high quality forage
 Be green to yellow in colour
 Have a Ph of 4.2 or below
 Have 5 to 9% lactic acid
2. -Leaching
 -Plants uptake
 -Volatilization
 -Soil erosion
 -Denitrification
3. -Healthy/tree from pests and diseases
 -Adaptable to different soil condition.
 -compatibility
4. -Nitrate ions
 -Ammonium ions
5. -Pruning
 -Weeding
6. -Deep-rooted crops should be alternated with shallow rooted crops.
 -Include grass ley to give land rest.
 -Legume crops to be included to fix Nitrogen.
 -Heavy feeders to come first in a newly opened land.
 -Crops from same family should not follow each other.
7. -Gapping
 -Thinning
8. -Burrowing animals
 -Man's activities
 -Big animals exerting pressure on rocks
 -Plant roots forcing their way into rock cracks.
9. -Ensure pathogen free plants
 -Require less space
 -It is fast
 -Used in production of many propagules/mass production of propagule

10.
 - Lower crop yield
 - Transmit diseases
 - Cause wilting
 - Inflict wounds, which provide entry for sec intersection.
 - Inject toxic saliva, which may cause distorted growth.
11.
 - Capital availability
 - Type of soil
 - Water availability
 - Topography
 - Type of crop to be irrigated.
12.
 - Prevent sprouting while in the store
 - Increase the keeping quality
 - Prevent growth of fungus/aflatoxin poisons
 - Harden seed coat minimizing pest damage
 - Reduce moisture content thus prevent rotting.
13.
 - Boiling
 - Chemical
 - Filtering
 - Decanting
14.
 - Saves time and money
 - Makes supervision easy
 - Facilitates mechanization
 - Makes it easy to carry out soil conservation measures.
15.
 - Degree of ripeness
 - Size of fruits
 - Shape of the fruit
 - Damage of the tomato
16.
 - Remain viable in the soil for a long time
 - Produce large quantities of seeds
 - Some weeds have ability to propagate by both seeds and vegetables
 - Have elaborate root system
 - Able to survive within limited nutrients.
 - Complete their life cycle within a short time
17.
 - strengthens the cell wall
 - Helps in proteins formation
 - Useful in cell division
 - Promotes formation of soil aggregates

SECTION B

18. (a) (i) -by planting grass/suitable vegetation trench/channel.
 (ii) -water channel/trench
 (b) -Measure and mark the layout of drain.
 - Dig and remove soil from the channel and heap it on the lower side of the drain.
19. (a) -H-gutter
 -K-drainage pipe
 (b) -Let out excess water
20. (a) -Peas are legumes therefore fix nitrogen that was used by maize.
 -maize and peas have different level therefore peas utilize nutrients deep where the shallow maize roots may not reach.
 -are in different families therefore not attracted by some parts and directions.
 To control pest and diseases associated with the crop
 (b) -To rebuild soil structure and reduce erosion.
21. (a)- H- couch grass
 -G-Sodom apple
 (b) (i) -fodder for livestock
 -reduce the quality of crops
 -increase cost of production
 -reduce crop yield
 (ii) -Perennial
22. (a) (i) -trellishing
 (ii) Produce clean fruits
 -to control soil borne disease
 -to facilitate harvesting
 (b) -Reduces the quality of carrots by inducing forking.

SECTION C

23. (a) Level of technology and education –high level of education help in solving problems such as use of poor methods of farming.
 -Health-successful farming requires vigour, strength, vision and determination only found in healthy bodies.
 -Government policy-in order to encourage agricultural production, the government should institute policies to regulate the amount of imported agricultural goods.
 -transport and communication- ensure goods from producers reach intended consumer in good time and farms get market and research information in good time.
 -Cultural practices and religious beliefs- they affect what people produce and consume.

-economy liberalization of Kenyan economy and world trade has led to dumping of cheaply produced and imported goods have flooded local market causing the price of agricultural products to drop.

- (b)
 - Threshing
 - Drying
 - Cleaning/winnowing
 - Dusting
 - Sorting and grading
- (c)
 - Seed cleaning
 - Seed dressing
 - Seed inoculation
 - Chitting
 - Breaking seed dormancy
- (d)
 - Timely planting –early planted crops may escape pest infestation.
 - Timely harvesting-crop may escape attack by pests like weevil.
 - Close season-a period during which a susceptible crop must not be grown to ensure destruction of pest.
 - Trap crop-a crop planted to attract pest away from the main crop.
 - Crop rotation-starves pests associated with particular crop to death.
 - plant resistant varieties.
 - Field hygiene-minimize spread of pests
 - crop nutrition

24. (a) (i)
 - control perennial weeds by cultivation during dry spell.
 - plant early so that the crops establish in time and out compete weeds.
 - uproot weeds
 - conduct hand weeding
 - selective herbicides can occasionally be used on large-scale
- (ii) Harvested 3 months after planting
 - harvest brown pods by uprooting the whole stalk
 - harvest only in the morning or late in the evening to avoid shattering of grains.
 - (iii) Market through national cereals and produce board.
 - market locally by selling to individuals and hotels.
 - selling in open air market
 - bidding for tenders in institutions.
- (b)
 - One should wear protective clothes
 - avoid inhaling the herbicides by not smoking while spraying along the wind direction.
 - read manufacturer's instructions and follow them.
 - avoid sucking or blowing nozzles
 - herbicides should be stored out of reach of children.
- (c) Mulching to reduce the speed of the run-off
 - contour farming by reducing the speed of run-off

Afforestation

Establishing and maintain vegetated waterways to reduce speed of run-off.

-minimize tillage

Strip cropping

-crop rotation

-use organic manure

25. –market demand

- weather conditions
- concentration of the required chemicals
- the use for which the crop was intended
- prevailing market price and profit margins.

(b) To aerate the soil thus providing oxygen needed for root growth.

-It is a method of land reclamation- enables farmers to get more land to grow crops and rear livestock.

-increase soil volume-water removes soil around the roots exposing them thus drainage enable soil to accumulate around the root zone.

-to reduce soil erosion-well drained soil allows water infiltration.

-to remove toxic substances-water logging cause soluble salts to accumulate to levels toxic to plants.

(c) Soil fertility

- method of planting
- number of seeds per hole
- spacing
- seed purity
- use of crop
- growth habit

