Agric marking scheme mock 2019

1 (a) factors considered when designing learning activities
Requirements of the objectives to be achieved
Content to be taught/topic area/syllabus requirement
Availability of teaching learning resources
Time available/lesson duration
Level of the pupils/ability of the pupils

b) **Sources of information a new teacher can refer to when preparing a scheme of work**

Reference books/class texts/ teaching guide
Record of work covered by the previous teacher
Syllabus for the class
Pupils' note books
Previous scheme of work

2. (a) apparatus/materials
(i) Three measuring cylinders
(ii) Three funnels
(iii) Cotton wool
(iv) Water
(v) Dry soil samples of clay, loam and sand/ different soil samples/soil samples
(vi) Stop watch

(½ x6= 3marks)

(b) **procedure**

- plug the necks of the three funnels with cotton wool
- Measure equal amounts of dry sand, clay and loam soils
- ensure that air spaces in the soil samples are reduced in the separate funnels by tapping the funnels carefully and persistently on the bench
- place the funnels on the measuring cylinders
- measure same amounts of water to be put in the soil samples
- pour water on the soil samples at the same time
- record the time taken for the first drop of water to drip through the funnels from each soil sample/record the highest amount of water collected from the soil samples

3 a) ways of maintaining pupils' interest

1 asking/answering oral questions
2 positive reinforcement
3 variation of tone/speech
4 use of appropriate gestures/mannerisms

5 varying teaching/learning activities
6 engaging learners in manipulative/investigative activities
7 use of motivating teaching/learning aids

(2x1= 2 marks)

b) Reasons for introduction

Creates readiness/motivation for pupils to start learning

Links previous lesson to the present

Exploration of the pupils knowledge of the subject matter t be taught/establishes entry behavoiur

Overview of the lesson to be taught

Links known to unknown

(3x1=3marks)

4 characteristics of a good chart for teaching science

Big and clear enough for all pupils to see/visible
Bold lettering/printing/clearly written/labeled
Drawn to appropriate proportion/scale
Simple to target only vital information/not congested/overcrowded
Attractive (colored) to capture the learners' attention
Neat with layouts and margins that make important information to stand out/framed
Must have a title

6x1=6marks

5 a) Synthesis-the ability to put parts together to form a new whole/formation of a new pattern
b) Application: the ability to use learned information in new concrete situations
c) Evaluation: the ability to judge the value of something for given purpose
d) Analysis: the ability to break the whole into its component parts so that its organizational structure may be understood.

(1x4= 4marks)

6. Factors for planning a new school farm lay out

1 size of the farm
2 topography
3 soil type
4 security

5 direction of the prevailing winds
6 climatic conditions
7 accessibility to all fields
8 location of the farm in relation to local amenities
9 size and type the enterprise
10 government regulations/policies
11 flexibility

½ x4= 2marks

7. A**im of research in livestock production**

To develop improved livestock breeds
To improve livestock production techniques
To ensure improved pasture and fodder quality
To develop new techniques for parasite and disease control

8. Influence of high relative humidity on crop production

Increases disease/pest incidences
Increases the rate of seed germination
Reduces the rate of water loss from the soil
Increases the rate of crop growth
Reduces evaporation
Reduces transpiration

9. factors that determine the depth of cultivation

Type of crop to be grown
Type of soil
Implements available/used during cultivation
Soil moisture content/season

10. signs of unhealthy crops

Stunted growth
Change in the color of the leaves and other plant parts/abnormal coloration
Gall formation
Wilting
Necrosis/death of tissues
Alteration of the shape of leaves
Gummosis/production of excess gum
Excessive branching/rosetting/short internodes
Defoliation/ premature leaf/fruit fall

11. harmful effects of liver flukes

Cause liver rot
Perforate intestine walls
Cause emaciation/loss of weight in sheep
Damage liver tissues/haemorrhage
Cause digestive upsets due to blockage of the bile duct/diarrhea
Cause swollen abdomen/jaw

12. **advantages of co-operative land tenure**

High efficiency can be achieved through mechanization of farm operations
High output due to use of skilled labour and high quality inputs
Better bargaining power in the marketing of the produce
There is economies of scale due to buying of inputs in bulk
Large membership increases resources
Profit from the land is distributed according to share contribution
Nobody can readily claim ownership of land hence no land dispute

13 . **Ways of utilizing pastures**

Through direct feeding
-Utilized as hay
-Utilized as silage
-Cutting the pasture and taking to livestock/cut and carry/ zero grazing 4 x ½ = 2marks

14. **qualities of good eggs for marketing**

-Smoothshelled
-Brown/white shelled
-Medium sized/ weighs 55-60 grams/appropriate size
-Clean shell
-Wholesome/ not cracked
-Oval shaped
-Good candling quality

15. advantages of contemporary comparison method of selecting breeding stock

Advantages of contemporary comparison

It is accurate
Eliminates differences due to environmental factors
It is possible to compare animals of different age groups
It's possible to compare bulls of different artificial insemination centers

(½x4=2marks)

16. advantages of crop rotation

Controls pests and diseases
Controls weeds
Improves soil structure
Improves soil fertility controls soil erosion
Enhances maximum utilization of nutrients

(4x **½ = 2marks)**

17. CAUSES OF CANNIBALISM in poultry

- External parasites infestation: when pecking parasites from each other, birds will move feathers causing injury
- Overcrowding: causes birds to fight for space around the waterers, feeders and on the floor.
- Brightly lit laying boxes: birds can see the cloaca that appears during laying hence peck it
- Idleness of the birds: birds occupy themselves with dangerous play of pecking each other
- Disturbance of the pecking order: this can be by introduction of a new bird to the flock causing disorders
- Incorrect feeding; diet which is not balanced with sufficient minerals make birds to eat feathers from each other, egg shells and pecking each other's toes
- Prolapse- failure of the cloaca to retract after laying the egg

18 Practices that come immediately after complete milking in the milking shed

Teat dipping to control mastitis
Release/untie the animal
Clean milking shade
Sieve/strain/filter milk
Apply milking jelly/salve on teats
Store milk in a cool place
Weigh and record milk yield

19. Reasons for rearing fish

1) provision of relatively cheap source of protein,
2) makes fish to be available within the locality,
3) quick source of income to fish farmers,
4) can be practiced even where land is a limiting factor because it requires less land

20. Functions of Kenya Farmers Association

Buying farm inputs at low prices for their members
Provide farm inputs to members on credit
Transporting farm inputs for their members at reduced prices
Recommending/sending their members to Agricultural Finance Corporation (AFC) for soft loans/ credits in form of working capital
Promoting and marketing of farmers' produce

21. effects of pests in agricultural production

Transmit crop diseases/act as vectors
Increase the cost of production in crops
Lower the quality of crop produce e.g. discoloring in cotton bolls/contaminate crop produce
Some suck plant sap causing retarded growth/water stress/wilting/withering
Feed on whole plant or plant parts lowering quantity
Injure plant pats exposing them to secondary infection

22. **contribution of agriculture to industrial development**

Provision of market for industrial goods e.g. fertilizers, seeds, fuels, feeds etc.
Source of raw materials for industries income generation from agricultural production can be used to establish industries

23 uses of crop museum (1mark)

-To provide teaching aid
-To demonstrate cultural practices
-It can be used to raise rare plant species
-It can be used as source of planting materials
-For observation of botanical characteristics of different plants/growth characteristics.
(2 x ½ = 1 mark)

24 factors that affect soil formation (2marks)

Time/duration
Biotic factors
Parent materials
Temperature
Climate
Wind
Rainfall/water
Topography

25 Deficiency symptoms of phosphorus

Stunted growth
Inhibited root and bark development
Inhibited flowering, fruit and seed development
Poor development of metabolizing organs of the plant
Increased production of anthocyanin pigment/purple coloration

26 Ways in which a swampy area can be drained for crop production (2marks)

Pumping away excess water
Use of French drains
Use of underground drain pipes
Use of cambered beds
Planting of trees such as Eucalyptus/blue gum
Open ditch/ trenches/drains

27. **Maintenance practices on farm tools and equipment**

Grease/ lubricate moving parts to reduce friction
Paint oil metallic parts to prevent rusting
Replace or repair broken parts e.g. handles to increase efficiency
Sharpen cutting edges of cutting tools to increase efficiency
Tighten loose nuts and bolts to reduce accidents
Insist on proper storage conditions
Unblock nozzles in pumps and sprayers
Clean after use to remove dirt
Use each tool and equipment for its intended purpose to reduce accidents damage to the tools
Keep them under shed free form moisture
Straighten bent prongs in forked jembes

28. **Reasons for raddling**

1) To identify the ewes which have been mated
2) To identify the rams that have mated which ewes
3) To know which ram and ewe that are not tupping- helps in culling.

SECTION C

29. a) Characteristics of a good livestock structure

Water proof
Adjacent to dung heap
Well secured
Wind/ drought proof
Strong and high walls

On well drained ground
Hard and impervious (wall and floor
Equipped with drinkers/feed troughs
Nearness to feed store

b) **Advantages of paddocking**

Maintains a favorable grass- legume balance
Aids in conservation as hay or standing forage
Ensures better forage utilization
Avoids wastage through trampling, fouling and selective grazing
Controls gazing
Saves herding labor
Allows for control of parasites and diseases

30. a) factors that make camels more adaptable to arid and semi-arid areas of Kenya

good browsers and hence can survive on twigs and shrubs
store a lot of fat in the hump which is broken down to metabolic water
has a long loop of henleto reabsorb water from urine for use in the body
sparsely covered with hair which allows sweat to evaporate from the skin
tolerant to high temperatures due to its skin color
has large water drinking and storage capacity in the body which makes it go for long without water
has well padded feet making it able to walk on sand without sinking
has trap door nostrils that close to prevent entry of sand during sand storms
has long legs that keep the body from the ground to prevent overheating of the body from the ground
have thick leathery mouths which enable them to chew thorny materials

b) factors that determine the demand of commodity on the market

1) **Change in consumers' income:** when the real income increases, buyers' demand will increase
2) **Change in the size of population :** will increase or decrease demand according to its trend
3) **Tastes and preference:** consumers with a passion for a given good will demand for it regardless of price increase
4) **Price of substitutes(related goods):** an increase in the price of a substitute will increase the demand of a commodity. If the price of butter is increased, the demand for BB will increase.
5) **Advertisement:** the more the consumers become aware of the existence of the commodity the higher the demand
6) **Government policy/Taxation:** heavy taxation reduces consumers' disposable income and this reduces demand.

7) **Change in weather:** related to soft drinks/ and beverages
8) **Expected price increase:** if future prices are anticipated to increase, more goods will be purchased
9) **Cultural and religious believes/ customs/ taboos:** goods and services that go counter to the believes and religions of the people will have low demand
10) **Price of complements:** complements are goods which are consumed in combination e.g. bread, tea, milk, butter. A fall in the price of bread will increase its demand as well as the demand of its complements(tea, milk, butter)
11) **Introduction of a new product :** if the new product alters the consumers' preference, then this will affect demand of an old commodity.

31 a)Factors that influence seed rate

1) **Spacing:** closer spacing requires a higher seed rate than wider spacing
2) **Percentage germination:** less seed is used when the seeds have a high germination percentage or vice versa
3) **Seed purity:** clean and pure seed has a higher germination percentage hence requires less quantity of seed or vice versa
4) **Number of seeds per hole:** two or more seeds per hole require a high seed rate than one seed per hole.
5) **Purpose of the crop:** fodder crops are spaced closely than crops meant for grain production hence more seed
6) **Method of planting:** broadcasting method uses more seeds than row planting/mixed stands use less seeds than pure stands

b) Reasons for pruning in crop production

to train the plant so that it can have the required shape/grow to the direction required
to remove the old and broken branches that are unproductive to reduce competition
to control cropping- will lead to high quality produce
to facilitate cultural operations-makes harvesting, weeding and spraying easy
to economize on chemicals- it leaves few branches which will consume little chemicals
to allow easy chemical penetration-by opening up the bush makes spraying easy
to control pests and diseases- this is by getting rid of microclimate suitable for the breeding of pests and diseases
for better aeration and light penetration
ensures bearing in all seasons

32. management of a gilt from farrowing to weaning (10marks)

-Keep watch and help over farrowing process

-Ensure piglets are breathing/ provide artificial respiration/ dry piglets after birth by use of straw/ remove mucus/foreign materials from nostrils.
-Place piglets in a warm area/ creep area/farrowing crate
-Cut and disinfect the umbilical cord/ naval cord with iodine
-Ensure the piglet suckles colostrum within 6 hours of birth
-Dispose off the afterbirth/still borne/dead piglets
-Give excess/orphaned piglets to foster mother/dispose them/ artificially feed them
-Provide clean drinking water in the creep area adlibidum
-Clip off the needle teeth on the third
-Introduce creep feed in the creep area on the tenth day
-Castrate males not meant for breeding
-Identify the piglets appropriately
-Control internal and external parasites using appropriate methods
-Give anti-anemia injection/ paste on the third day and repeat on the tenth day
-Treat sick piglets as need be
-Introduce grower mash gradually/ wean the piglets/ wean the piglets at 6-8wks/wean gradually to avoid stress/give weaner and sow meal/separate sow from the piglets
-Observe hygiene
-Keep appropriate records
-Weigh piglets at birth, third week and at weaning
-Do tail docking on the third day 10 x 1 = 10 marks