



PROVISIONAL MARKING KEY

AGRICULTURE I

1. a. – To avoid overgrazing
– To avoid under grazing **(2 marks for any 2)**
- b. – difficult to weed or apply fertilizer/because plants grow without a pattern
–uneven plant growth/as some seeds can fall in one area
–seed wastage /since some seeds may be picked with birds
–requires a lot of seed/as some seeds fail to germinate
–low germination percentage/covered too deep/on the surface not receive enough moisture
(4 marks for any 2)
2. a. (i) - Human power **(1 mark)**
(ii) - mechanical power **(1 mark)**
- b. – expensive to maintain
– needs skills to operate and maintain
– needs a flat land
– availability of fuels may be a problem **(2 marks for any 2)**
- c.- proper feeding /for the workers to have energy
– timely payment of wages/ to motivate workers
– provide enough rest periods/ for the workers to have energy to do more work
– providing enough tools/ to increase efficiency from the workers
– improve health of the workers/ to ensure that they are always strong for the work
– supervising workers/ for them to work hard **(4 marks for any 2)**
3. a. - Mango scales **(1 mark)**
- b.- Collecting and burying all dropped and rotten fruits
– keeping the orchard clean

- Spraying fenthion

(2 marks for any 2)

c. - wash the mangoes

- peel them

- remove stones/seed

- slice the mangoes

- add ingredients (or a mention of at least two some of the following; sugar, salt, chopped onion, red chill powder, black pepper, cardamom, cinnamon and vinegar)

(5 marks; 1 mark for each step in that

order)

4. a.- excessive cultivation/which breaks the aggregates

- Cultivating the soil when too wet which results in soil compaction OR cultivating the soil when too dry which results in making the soil particles very loose

- Overuse of heavy machine/ leading compaction of soil particles

- Raindrop impact/soil particles break up and fill up the soil pores

- Overgrazing/animal hooves compacts the soil particles **(4 marks for any 2)**

b.- make the soil solution (put soil in container, add water, shake heavily)

- dip the electrodes of the pH meter in the soil solution

- record the pH reading on the pH meter screen

(3 marks; 1 mark for each step in that order)

c.-nutrient depletion/as water percolates through the soil it carries away the essential cations

-pH imbalance/acidic leaching can occur causing release of hydrogen ions leading to soil acidification

(4 marks for any 2)

5. a. - Mastitis **(1 mark)**

b. - Treat with antibiotics

- Practice hygiene during milking **(1 mark for any 1)**

c. -large bodies or heavy bodies or deep and compact bodies/ to provide more fleshed

-The legs are short/ to support the heavy bodies

-rectangular or square shaped bodies/ to ensure that the flesh is evenly distributed



-they grow and mature quickly/ to provide meat fast

(4 marks for any 2)

6. a.

Mr Chitsulo → Mr Banda → Thope trading → Vendors → Households

(4 marks for mentioning all individuals involved in the channel and 1 mark for the arrows)

b. - indirect/four tier marketing channel **(1 mark)**

c. - Buy Irish potatoes from Mr Banda

- bulking large quantities of products in warehouses

- advertising the Irish potatoes

- transport the produce

- they bear risk of price fluctuation

- conduct market research

- packaging the produce

- selling the Irish potatoes to vendors

7. a. - scarification is the process of weakening the hard seed coat⁽¹⁾ by immersing in water or scratching the seed coat⁽¹⁾. The weakened seed coat allows water entry⁽¹⁾ for fast seed germination. **(3 marks)**

b.- method of storage/leaking storage reduces pasture quality

- the age at cutting/the pasture which is cut when young has more nutrients

- presence of foreign materials/weeds or any trash in pasture reduces its quality

- moisture content/availability of moisture leads to decline in quality of the pasture

- pasture species/pasture which has more legumes is mostly highly nutritious

- filling duration/fast filling of pasture in storage maintains quality

(4 marks for any 2)

8. a. (i) 4 to 12 months OR any mention of the number of months in between OR a mention of any range of months in between **(1 mark)**

(ii) - 8 to 12 months **(1 mark)**

b.- outbreeding is the mating of animals of different pure breeds while crossbreeding is the mating of animals of the same breed but not closely related **(1 mark)**

c. NB: Gestation period for a cow is 270 to 283 days



Backdating calculations will be as follows:

283 days – 31 days(January 2025)=252 days

252 days – 31 days (December 2024)= 221 days

221 days – 30 days (November 2024)=191 days

191 days – 31 days (October 2024)=160 days

160 days – 30 days (September 2024)=129 days

129 days – 31 days (August 2024) = 98 days

98 days – 31 days (July 2024)=67 days

67 days – 30 days (June 2024) = 37 days

37 days – 31 days (May 2024)=6 days

6 days – 30 days (April 2024) = – 24 days

This indicates that mating should take place on the 24th of April 2024(**3 marks**)

b.- semen from one bull can be used to service many cows

- it is easy to plan for a breeding program

- it helps to control sexually transmitted infections

- it eliminates the cost of keeping a bull (**2 marks for any 2**)

9. a. - a bigger farm will generate enough profit/ to pay off the cost of buying and operating it (**2 marks**)

b. - the value of the crop must be higher/ in order to costs of mechanisation

10. Proestrus

- Oestrus

- Metoestrus

- Dioestrus (**4 marks**)

Section B (30 Marks)

11. -loss of fertile soil/reduced crop yield

-reduction of arable and grazing land/formation of gullies and deposition of silt

-siltation of water reservoir/filled up with eroded soil



- Floods occur frequently/capacity of water reservoirs to hold water is reduced
- pollution of water sources/floods carry agrochemicals into water bodies
- spreading of soil and water borne diseases/destroy crops /low crop production

(10 marks for any

5)

12. - Well ventilated / to reduce dampness or to regulate temperature or avoid suffocation

- Big enough / to avoid overcrowding or to reduce disease transmission
- Well drained / to avoid dampness which is an ideal breeding ground for germs
- Well thatched / so that it is leak-proof to avoid dampness
- Have a milking parlour / so as to produce high quality milk
- Concrete floor / for easy sweeping and mopping
- Strong walls / to protect animals from predators, bad weather and thieves

(10 marks for any 5)

13. -establish furrow irrigation system/ water flows through gravity

- farmers should use the dam as a main source of water for irrigation
- planting beans/which fixes nitrogen/increasing soil fertility
- animal dung will also be applied to increase fertility on the degraded land
- planting beans and maize which will also reduce production cost

(10 marks for any 5)

END OF PROVISIONAL MARKING SCHEME

