

||| DRAFT MARKING GUIDE
S2712 P&P OF AGRICULTURE
MOCK 2019

a) Describe the physical nature of each sample.

F₁ - round/oval pink granules

F₂ - rough light grey granules

F₃ - smooth round very white hygroscopic granules.

1x3 = 3 marks.

b) Dissolve one spatula of each sample in 10mls of distilled water and record your observations.

F₁ - pink granules dissolve slowly to form a clear solution with a few granules remaining at the bottom of test tube.

1x1 = 1 mark

F₂ - grey granules dissolve very slowly to form a grey suspension with a lot of granules remaining at the bottom of test tube.

1x1 = 1 mark

F₃ - white granules dissolve very fast to give a clear solution. no granules are seen after 60 secs.

1x1 = 1 mark

c) Suggest with a reason, the stage of maize crop growth when fertilizer F₂ and F₃ should be applied.

F₂ - applied at planting base it takes long to dissolve
1x2 = 2 marks

F₃ - at knee height / as top dresser & so it dissolves very fast and plant roots have developed at this stage for absorbing the nutrients before leaching.

1x2 = 2 marks

Total Q 1 = 10 marks

2. a) place these specimens into two groups giving a reason for each group.

Group 1. D₂ and D₃ poultry bird system.

Group 2 D₁ and D₄ ruminant animal system.

1x2 = 2 marks

b) state one main digestive function of each in a farm animal.

- D₁ - storage of food
- fermentation of food / cellulose
- synthesis of vit B, C and K
- absorption of VFA

1x1 = 1

D₂ - food is crushed with the help of grit and thick walls.

- break down of food with enzymes from proventriculus
- provides passage of food to the duodenum.

3 -

1x1 = 1

- D3 - stores food from the mouth;
 - Softening of food
 - fermentation of food. $1 \times 1 = 1 \text{ mark}$

- D4 - secretes pepsin that breaks down proteins;
 - produces HCl that kills bacteria in the food
 - provides suitable pH for action of pepsin and rennin.

(c) Cut open D2 and D3 and explain how the features in each help in the process of food digestion in the animal. $1 \times 1 = 1 \text{ mark}$

D2 - contains grit that help crush food materials.

- thick walls for mechanical crushing of food
- has horny epithelium preventing injury to the muscle tissue by grit during crushing of food.

$1 \times 1 = 1 \text{ mark}$

D3 - moist condition for fermentation of food
 - contains fluid that softens the food.

d) Mention distinguishing features for Specimens D1 and D4. $1 \times 1 = 1 \text{ mark}$

- D1 - towel like structure due to vaginal papillae
 - thick vaginal wall muscles

$1 \times 1 = 1$

D4 - smooth with numerous folds.

- mucus secretion on the surface

$1 \times 1 = 1$

-4-

Total Q2 = 10 marks

3. (a) classify these specimens giving a reason for your classification.

Group 1; P_1 and P_4 ; Pasture weeds

Group 2; P_2 and P_3 ; Crop weeds;
 $1 \times 2 = 2 \text{ marks}$
or

Group 1; P_1, P_3 and P_4 - dicotyledons

Group 2; P_2 - monocotyledon.
 $1 \times 2 = 2 \text{ marks}$

(b) State one main feature observed in each specimen

P_1 - thorns on leaves and stem
- rough leaves
- woody stem

P_2 - long rhizomes bearing buds
- numerous roots at every node
- inflorescences has many seeds
- slender leaves.

P_3 - many fruit with hooks.
- wide leaves.
- many fibrous roots.

P_4 - ~~2~~ - funnel white flowers
- large leaves
- thorny fruits

(c) Suggest one economic and suitable method for controlling each specimen.

P_1 - mechanical control/cutting down and uprooting the plant.

- digging out the rhizomes with forked hoe and burn the rhizomes
 - Spraying with translocated herbicide.
- $1 \times 1 = 1$

P₃ - Cultural Control; uproot and burn to kill the seeds;

$1 \times 1 = 1$

P₄ - Cultural Control; uproot and burn to kill the seeds.

$1 \times 1 = 1$

Total Q₃ = 10 Marks

4. a) Name the system of the farm machinery where each is used.

E₁ — Cooling System

E₂ — Electrical System

E₃ — Lubrication System

E₄ — Transmission System

E₅ — Fuel System

E₆ — Electrical System.

$\frac{1}{2} \times 6 = 3 \text{ Marks}$

b) State one function of each in the Machinery System

E₁ — Cools water that cools the engine

E₂ — Produce a spark for ignition of fuel.

E₃ — reduce friction between moving parts.

E₄ — provide forward/backward movement of the farm machine
 — Allow maximum grip on the ground;

- 6 -

E5 remove dirt/dust from air before it goes to
Cylinder or Carburettor

E6 — stores electricity
— supplying electricity to different parts eg, induction
coil, Starter motor, lights.

$$1 \times 6 = 3 \text{ marks}$$

c) Mention four practices that should be carried
out to keep E6 in good working condition.

- keep vent holes open by unblocking vent holes;
- keep electrolyte at recommended level by topping
with distilled water when level is low;
- apply vaseline at the terminals to control
rusting
- change the electrolyte when specific gravity
is low (below 1.270).
- ensure ~~the~~ that it's properly charged.
- fix the vent caps to control spillage of
electrolyte.

$$1 \times 4 = \underline{4 \text{ marks}}$$

5. a) Name the farm structure constructed by these
materials.

— Farm fence / barbed wire fence.

$$1 \times 1 = 1 \text{ mark}$$

b) Describe the procedure followed when
constructing the farm structure with the
specimens above.

- The required number of M3 are fixed firmly on
to the ground in a line

one end of M_4 is fixed on to E_3 by use of M_5 and M_2 ;

— M_4 is then stretched using M_1 along the line of M_3 until it is tight.

— M_4 is then fixed on each of E_3 M_3 by use of M_5 and M_2 in subsequent lines until required number of rounds are obtained.

$$1 \times 4 = 4 \text{ Marks}$$

(C). State one feature in each specimen that make it suitable for use in the construction of the farm structure.

M_1 — has grippers for holding the wire.
— has handles for holding when stretching the wire
— has adjustable chain for stretching the wire

M_2 — has V-shaped claws for gripping nails
— has a handle for gripping in use
— heavy head for driving nail into wood.
— flat face on the head for easy driving nail into wood.

M_3 — smooth surface to control injury to animals
— treated with chemical for lastup for long.

M_4 — Has bails that prevents entry by animals /
scars intruders
— twisted wire to increase strength

MS - has sharp points that allow easy
driving it into wood
- folded / u-shaped for easy holding of
the barbed wire onto piece of wood

$$1 \times 4 = 4 \text{ mtrs}$$

$$\text{Total QR} = 10 \text{ mtrs}$$

Instruction SheetF₁ - NPKF₂ - S.S.P.F₃ - Urea.D₁ - rumenD₂ - GizzardD₃ - CropD₄ - Abomasum.P₁ - Tick berry bushP₂ - Couch grassP₃ - Black jackP₄ - Thorn apple.E₁ - RadiatorE₂ - Spark plugE₃ - Engine oilE₄ - vehicle tyre / tractor tyreE₅ - Dry air cleanerE₆ - Battery.M₁ - Wire strainerM₂ - claw hammerM₃ - Fencing treated postM₄ - roll / piece of barbed wireM₅ - U-nails / Staples.

Other Materials:

- 3 clean test tubes
- distilled water

- Sharp blade
- Spatula.