WAKISSHA JOINT MOCK EXAMINATIONS 2015
UGANDA ADVANCED CERTIFICATE OF EDUCATION
MARKING GUIDE
P515/3
AGRICULTURE
JULY/AUGUST 2015

1. (a) Principal nutrients supplied by the specimens

A_I- Carbohydrates Reject: energy; because energy is a value; not a nutrient
A_2- proteins
A_3- Proteins, calcium (any **one**)
A_4- calcium
A_5- zinc, iron, magnesium, calcium, copper, vitamins
A_6- Sodium, chloride (any **one**)

½ x6 =**03marks**

(b) Ways of improving the intake of A_1 and A_2 by the animals.

- Moistening them with water
- Mixing them with molasses
- Mixing them with A_6/common salt

Any two ½ x2 = **01 marks**

(c) i) Variation of A_2 in broilers' and layers'

Layers need less proteins; to avoid over fattening, so that reproductive potential is not lessened. **01 mark**

Variation of A4 in broilers' and layers'

Layers' need more calcium for the formation of strong shelled eggs.

01 mark

ii) Broilers

$A_2 = \frac{40}{297.5} \times 1000 =$ **134.45 kilos**

Accept 134.5 kilos **01 mark**

$A_4 = \frac{16}{297.5} \times 1000 =$ **53.78 kilos**

Accept 53.8 kilos OR 54 kilos **01 mark**

Layers

$A_2 = \frac{30}{297.5} \times 1000 =$ **101.5 kilos** **01 mark**

$A_4 = \frac{30}{297.5} \times 1000 =$ **81.2 kilos** **01 mark**

Accept 81 kilos

Reject final answers without units (kilos)

2. (a) Cooling system /Air-water cooling system

Reject: water cooling system **01 mark**

(b) D_3 is put into D_1 from where it flows to the engines and become hot.
D_2 connects D_4 and D_5 together.
When D_4 rotates, it makes D_2 to rotate, which then makes D_5 to rotate, when D_5 rotates, it blows cool air through the fins of D_1 which cools D_3.

any three 1 X 3 = 03marks

(c) D_3- It is clean, hence not blocking the water jackets
- It is highly viscous hence easily flows through the water jackets

D_1- Has top and bottom tanks for holding water
- Has fins for increasing surface area for cooling water
- Has a drainage tap for allowing out waste water
- Has inlet and outlet pipes for allowing hot water and cool water from and to the engine.

½ x 4 = 02 marks

(d) **Effect of malfunctioning of D_2 in the tractor**
- Loss of charge on the battery / failure to recharge the battery
- Overheating of the tractor engine

1x2 = 02 marks

(e) How you can maintain D_1 for better performance
- Remove debris or dust particles from the fins
- Flushing it with clean water to remove dirt from the tubes
- Filling it with clean water / topping up with clean water when the level is low
- Repairing and leakages as soon as possible
- Properly fixing the hose pipes and cover (cap) to avoid leakages.

½ x 4 = 02 marks

3. (a) Animal identification **01 mark**

(b) - Enables easy identification of animals for day- to day management practices
- Enables proof of ownership in case of strayed animals
- Enables accurate record keeping
- For breeding purposes
- For keeping health records
- For easy selection of animals / culling
- Reduces disputes over stolen animals

½ x 4 = 02 marks

(c) **C_1**
- Has sharp edge for cutting during opening of the scrotum
- Handle for proper grip during use.

½ x 2 = 01 mark

C_2
- Handle for proper grip during use

- Has labels/ letters that mark the animal

½ x 2 = 01 mark

(d) - Restrain the animals to be branded
- Put the labelled end of C_2 on fire
- Remove hair from the areas to be branded using C_1
- Remove C_2 from fire when red hot
- Apply it to the skin with a little pressure for not more than three seconds
- Remove C_2 and apply antiseptics to the burnt area to encourage healing
- Release the animal.

½ x6 = 03 marks

(e) Ensuring efficiency of using C_1 and C_2
- Do not use too hot iron as it makes a wide burn.
- C_2 should not have too thin surfaces to avoid deep cuts.
- Use a reasonably wide surface iron whose mark cannot easily be covered with hair.
- Always brand dry animals.
- Clip off the hair first from the area to be branded to avoid spreading of heat or catching fire.

1 x 2 = 02 marks

4. (a) i) Planting / Propagation
ii) E_1- suitable

Reason: has no damage/ is wholesome

E_2- suitable

Reason: has buds at nodes that can sprout

E_3- Not suitable

Reason: has a damaged corm / Has a rotten base
OR Has tunnels in the corm

½ x 6 = 03 marks

(b) E_1

Reasons:
- Has no damages
- Is not bulky/ small in size
- Easy to store since it is dry

OR

E_2

Reasons:
- Has no damages
- Can easily germinate due to presence of buds
- Has a lot of food reserves since it is fresh

½ x 4 = 02 marks

(c) E_1

Limitations
- Has limited food reserves due to its small size

- Can take long to germinate due to democracy
- Can lose viability when stored for long
- Can easily be damaged by pests that reduce viability

OR

E_2 Limitations

- It is heavy / bulky to transport
- Requires a big area to store
- Parental diseases can easily be transferred to the new plants
- Improvement/ breeding can be difficult.

½ x 4 = 02 marks

(d)

- Has black tunnels
- Has rotten base
- Has holes in the base

01 mark

(e)

- Trapping and killing the pest
- Applying recommended pesticides
- Hand picking and killing the pest
- Planting clean planting materials

5. (a) Building **01 mark**

(b)
- make a foundation trench
- Mix B_7, B_6 and B_4 in the right proportions to make concrete.
- Use B_2 to make concrete boxes.
- Pour the mixture of concrete in the foundation concrete boxes.
- B_1 on top of the concrete.
- Bind B1 using a mixture of B_6 and B_7, being applied by B_5.
- Check the horizontal straightness using B_3.

1 x 2 = 03 marks

(c) i) length = 6ft or 180cm
Width = 1 ft or 30cm

½ x 2 = 01 mark

Reject figures without correct units

ii) B_2 covering whole length of one side = $\frac{10ft}{6ft}$ **e** $\frac{1}{2}$

For the **four** sides = $\frac{10ft}{6ft}$ x 4 **e** $\frac{1}{2}$

B_2 covering whole height of one side = $\frac{8ft}{1ft}$ **e** $\frac{1}{2}$

For the **four** sides = $\frac{8ft}{1ft}$ x 4 **e** $\frac{1}{2}$

Total number of B_2 = $\frac{10ft}{6ft}$x 4 x $\frac{8}{1}$x 4 **e** $\frac{1}{2}$

= 214 **(03 marks)**

Accept 210 - 220

(d) - Painting with vanish
- Oiling
- Painting with pesticides

1 x 2 = 02 marks