**AGRICULTURE**

**PAPER 2**

**MARKING SCHEME**

1. As an art
* Measurement of land.
* Operations of farm machinery.
* Handling of livestock during management.
* Cultivation / tillage of land.
* Harvesting of crops.
* Marketing of crop produce.
* Construction of farm structures.

Any 2 x ½ = 1 mark

* + As a science
* Entomology – Study of insect, pests and their control.
* Genetics – Study of inheritance and variation in organisms.
* Pathology – Study of diseases and their control.
* Pedology – Study of soils.
* Ecology – Study of organisms and their relationship to the environment.
* Agricultural engineering.

Any 2 x ½ = 1 mark

1. (i) For applying mortar / plaster when constructing structures in the farm. 1 x 1 = 1 mark

 (ii) For cutting thin metal sheets 1 x 1 = 1 mark

* Well developed lungs for effective gaseous exchange.
* Well developed dewlaps for temperature regulation.
* Resistance to tropical tick borne diseases.
* Are hardy / Require less feeds.
* Are humped.
* Can walk long distances in search of pastures and water without reducing their production.

Any 4 x ½ = 2 marks

* Milk formation / synthesis.
* Formation of bones / skeleton and teeth.
* Blood clotting.

2 x ½ = 1 mark

5. Cereal balancer 12 parts of cereal 

* + 10% balancer

16



* + Cotton cake 6 parts of cotton 
	+ 28%DCP Total 18 seed cake
* Quantity of cereal balancer 12/18 x 100kg = 66.7kg
* Quantity of seed cake 6/18 x 100kg = 33.3kg

6.

* Improves production.
* Help / prevent deficiency diseases.
* Enhance resistance to diseases.

Any 2 x ½ = 1 mark

7.

* Use of impregnated nets with fly traps.
* Spraying the forests / bushes where they live.
* Clearing the bush where they live.
* Treating trapped males with sterilizing agents’ e.g. radio isotopes then releasing them.

Any 4 x ½ = 2 marks

8. (a) The practice of rearing animals under confinement / stall where food and water are brought to the animals. ( 1 mark )

(b) 18 – 22 days.

(c) Any time between 3.00 pm and 3:00am (Accept other time stated between 3.00 pm and 3:00am) ( 1 mark )

9.

* Avoid poisoning by chemicals or lead that may be in the paints. E.g. heavy metals
* Discourage insects from inhabiting the shed.
* Discourage / avoid tainting of milk if shed is used immediately after painting.

2 x ½ = 1

10. Wind power, water power, human power, animal power, biogas power, wood fuel, kerosene

4 x ½ = 2 marks

11.

* Wear and tear.
* Misuse of the tool.
* Poor care and maintenance / storage.
* Low quality tools.

2 x ½ = 1 mark

12.

* Old engine oil
* Arsenal pentoxide
* Paint
* Tar
* Creosote

13.

* Ear notching
* Ear tattooing
* Eat tagging 2 x ½ = 1 mark

14.

* Control stocking rate.
* Control predators.
* Control of water pollution.
* Control appropriate depth of water in pond.
* Proper aeration of the pond.
* Supply adequate food.
* Harvest fish when mature. 4 x ½ = 2 marks

15.

* Heat method.
* Crushing and squeezing / straining method. 2 x ½ = 1 mark

16.

* Proper security in enhanced.
* Saves time during movement.
* Ensures easy flow of services.
* Helps in soil conservation.
* Ensures maximum use of resources. 4 x ½ = 2 marks

17.

* Difficulty in breathing.
* Loss of appetite / anorexia.
* Paralysis / staggering motion.
* Yellowish / watery diarrhoea.
* Drop in production.
* Bending of neck.
* Production of soft shelled eggs.
* Drooping wings.

**SECTION B**

18. (a) A – Correct temperatures in the brooder.

 B – Very cold brooder.

 C – Very hot brooder.

 D – Draught / cold winds from the right side of the brooder. 1 x 4 = 4 marks

 (b) - Spread their wings

 - Gasping 2 x ½ = 1 mark

 (c )

* Litter material made of saw dust or wood shavings to maintain warmth.
* Good ventilation / fresh air.
* Source of heat e.g. electric bulb, stove, charcoal burner, gas
* Feeders and waterers. 1 x 3 = 3 marks

19. (a) A – Liverfluke / Fasciola hepatica / Fasciola gigantica

 B – Tapeworm / Taenia solium / Taenia saginata

 C – Roundworm / Ascaris spp. 1 x 3 = 3 marks

20. (a) D

 (b) (i) E – High pressure / excess pressure.

 F – Low pressure / less pressure.

 (ii) E – Deflate to the correct / optimum pressure.

 F – Inflate to the correct / optimum pressure.

21. - Repair / replace a leaking roof.

 - Clean / treat before introducing new / fresh grains

 - Remove ladder after use to avoid entrance of intruders / predators / rodents

 1 x 3 = 3 marks

**SECTION C**

22. (a) (i) Consider - Availability of materials

 - Duration of materials

 - Cost of materials

 - Roofing materials that keep off rain preferable iron sheets.

 - Materials of walls should allow light and ventilation.

 - Materials that allow free drainage of dung and urine.

 1 x 6 = 6 marks

 (ii) - Leak proof.

 - Well ventilated.

 - Free from strong winds / draught free.

 - Easy to clean.

 - Adequate space for the calf.

 - Safe from predators / thieves.

 - Floor should allow free drainage of urine and dung.

 - Warmth.

 - Allow enough light penetration.

 - Security against wild animals. 1 x 6 = 6 marks

 (b) - Remove fluids from nostrils.

 - Remove fluids on its body by using dry clean sac / allow mother to lick.

 - Cut umbilical cord with sterilized instruments.

 - Apply iodine to navel cord to prevent infection.

 - Protect calf from adverse weather conditions / put in calf pen.

 - If not breathing well, pour cold water on the chest or put salt on the tongue to stimulate

 artificial breathing.

 - Allow calf to suck colostrum within the first 30 minutes after calving and the next 4-6 days.

 - Assist the calf to stand and suckle

 - If mother dies immediately provide artificial colostrum.

 - Weigh the calf.

 - Keep record for birth weight, sex, date of birth, condition.

 1 x 8 = 8 marks

23. (a)

* When the land is too steep.
* Lack of know how.
* When the size of land is too small.
* When capital is inadequate to acquire disc plough.
* When it’s cost effective to use a jembe.
* When adequate time is available.
* Where the land is rocky / stony. 1 x 6 = 6 marks

(b) Petrol engine Diesel engine 

- Use petrol which is highly flammable - Use diesel which is a low flammable fuel

- Have a carburettor - No carburettor

- Air and fuel mix in the carburettor - Air and fuel mix within the cylinder

- Has a spark plug which ignites fuel in the engine - Fuel is ignited by compression of air and fuel

 mixture in the cylinder.

- Produces little smoke because petrol is completely burnt - Produces a lot of smoke because diesel is not

 burnt completely

- Light in weight - Heavy in weight

- For light duties - Suitable for heavy duties

- Lower compression ratio of 5: 1 to 8: 1 - Higher compressions ratio of 14: 1 to 20: 1

- Use more fuel and are more expensive - Use less fuel and are more economical

- Make less noise - Make more noise

 Any 7 x 2 = 14 marks

24. 1. Proper selection should be based on

* Good health
* High fertility
* Good body conformation
* Cull poor animals
* Selection and culling should be a continuous exercise.

 2. Proper breeding

* Use superior bulls / semen from superior bulls
* Breed heifers when fully mature considering weight
* Breed cows 60 – 90 days after calving to maintain a calving interval of one calf per year.

 3. Timely and proper control of disease and parasite through

* Keep animals healthy by routine vaccination.
* Control external parasites by spraying and using appropriate drugs.
* Control internal parasites using appropriate drugs / anthelminthic drugs.
* Treat sick animals.
* Isolate sick animals suffering from contagious diseases
* Avoid physical injuries to the animals by avoiding sharp objects, holes / pits and use plain wire for fencing.
1. Proper feeding
* Feed cattle on balanced ration.
* Give adequate feed.
* Give clean feed free from contamination.
* Provide minerals and vitamins e.g. salt licks,
1. Proper housing
* Proper housing should be provided.
* Houses should be spacious enough.
* Proper ventilation in the houses.
1. Carry out proper management husbandry practices
* Milk at regular intervals.
* Handle animals properly.
* Observe closely heat signs and signs of diseases.
* Keep proper and good records.
* Evaluate the herd to make sound management decisions.

 1 x 20 = 20 marks