**SET 3**

**MARKING SCHEME AGRICULTURE PAPER 444/2**

**1.** - To control in breeding

- Control breeding

- Prevent breeding/control breeding diseases

- For faster growth

- Improve quality of meat by removing bad smell **(1 ½ marks)**

**2.** - For efficiency

- Avoid frequent replacement/to last long/durability\

- Reduce cost of maintenance

- Minimize/prevent injury to the user **(2 marks)**

**3.** - Absorb heat and acts as a coolant

-Prevent rusting

-Cleans engine part of fine metallic materials

**4**. - Mowers e.g. reciprocating mower/lawn mower

- Power/chain saw

- Boom sprayer/sprayers

- Planters

- Rotavators

- Fertilizer spreaders **(1 ½ marks)**

**5.** - Some may not effectively control livestock and human movement

- Compete with crops for light, water and nutrients.

- Create good hiding space for vermin.

- Require a lot of labor during maintenance trimming.

- May take long to grow and make effective fence.

**(2 marks)**

**6** - Use of prophylactic drugs

- Use of disinfectants and antiseptics

- Isolation of sick animals from healthy ones.

- Imposition of quarantine

- Vaccination or immunization

- slaughtering of the animal that are sick

- Proper disposal of carcass **(2 marks)**

**7.** -New castle

-Rinderpest

-Anthrax

-Rabies **(2 marks)**

**8. a) -**A calf reared even after the death of the mother cow.

-The calf is given the correct amount of milk; thus, there is no overfeeding or underfeeding

-it is possible to rear many calves at the same time.

-Accurate records of milk yield can be maintained easily. **(2 marks)**

**b.** - Bacteria in rumen.

- Bacteria in caecum.

- Ability to regurgitate **(1 ½ marks)**

**9**. -Hydropower

-Geothermal power

-Nuclear power

- Storage battery

Solar energy **(2 marks)**

**10.** Wire strainer

**11.** Estrogens **( ½ marks)**

**12.** Caecum **( ½ marks)**

**13.** Draw bar **( ½ marks)**

**14.** State three uses of green houses on the farm. **( 1½ marks)**

**15.** -Sahiwal.

-Red poll.

-Simmental

-Brown Swiss.

-Shorthorns **(2 marks)**

**16. -** Prevents the engine from over healing.

- Maintains optimum engine temperature during operation. **( 2 x ½ ) = 1 mark**

**17.** Orally; intravenous injection; inhalation **(1 marks)**

**18.** Culling is the removal of the removal of underproductive animal from the herd **(½ mark)**

**19 .** Tilapia; carps; blue gill; bass; nile perch **(2 marks)**

**20.** Tenon saw- is used for fine sawing/cutting tenon Joints while a rip saw-sawing a long the grains (**2 marks)**

**SECTION B (20 MARKS)**

**22. a)** A/ squeeze **(1 mark)**

**b)-**Teat is grasped at base between the thumb and the index finger.

-The other fingers are sequentially tightened starting with index fingers to compress the teat so as to expel the milk into a container

-all fingers are relaxed finger and the thumb should hold the base of the teat firmly to prevent back flow

of milk into glad cistern. **(2 marks)**

**23. a)** Animal/ ox-drawn plough. **(1 mark)**

**b)** G – Mould board.

J – Share

H – Land slide

K – Land wheel **(4 marks)**

**(c)**

Plough/ridging

Harvesting root crops e.g. groundnuts.

Weeding row planted crop.

Opening furrows for planting. **(2 marks)**

**24.**  i) ear notching **(1 mark)**

ii) No. 36 **(1 mark)**

**25.**  **a)** R1 - Heat method

R2 -- Straining method **(1 mark)**

**b)** -Type of plants from which the nectar was obtained

-Maturity stage of at the time of harvesting

-Method of harvesting

-Method of processing honey **(2 marks)**

**(SECTION C 40 MARKS) Two questions from this section**.

**26.** Ten characteristics of a poor layer (10 mark)

Vent -Dry / less active

- Shrunken / rounded

- Pale in colour.

Comb - Small / shriveled / shrunken

- Pale in colour / dull

- Cold to feel

- Dry / scaly

Plumage - Smooth / preened / glossy / shinny

Abdomen - Some tires full and hard / stiff

- Small / shrunken

Space between

- Cannot accommodate three fingers

- Keel and pelvic bone small

Shanks - Yellowish

Eyes - Dull and pale yellow

Broodiness is common.

Temperature - Lazy and dull

Beak - Yellowish in colour **(10 marks)**

**b. Ten daily maintenance practices that should be carried out on a farm tractor**

i. Check engine oil and top up / change as necessary

ii. Check level of electrolyte in the battery and top up with distilled water if need be.

iii. Check fuel level in the tank and top up as necessary.

iv. Check tyre pressure and adjust as necessary

v. Check water / coolant level in the radiator and add as necessary.

vi. Check oil in the differential and add or change as necessary.

vii. Check fan belt tension and tighten if loose.

viii. Tighten loose nuts and bolts regularly

ix. Check condition of air cleaner and clean / top up with oil.

x. Check level of brake fluid and top up as necessary.

xi. Grease moving parts after the recommended working hours

xii. Remove and clean the sediment bowl when conditions demand. **(10 marks)**

**27. a) Importance of keeping livestock healthy (10 marks)**

High quality product; fetches high market prices;

Fast growth / Early maturity; ensure long productive life;

Economic to keep, saves on expenditure on veterinary services and drugs;

Produce healthy products; hence no risks of transmitting zoonotic diseases;

High yields; hence high returns;

Fetch good market prices ; hence high returns; **(5x2 marks)**

**b**. Function of any five parts of a zero grazing unit in dairy farming.

- Feed store – storage of livestock feed.

- Sleeping area – resting at night.

- Feeding area – feeding and water troughs with clean concentrates and water.

- Calf pen – handling / housing calves.

- Milking section – Milking parlour available for milking cows.

- Milk recording room – weighing milk.

- Feed preparation section – mixing of different types of feeds. **(10 marks)**

**b) Operation of a four stroke engine.**

**Induction stroke**

The piston moves down the cylinder, causing the inlet valve to open and draw in fresh supply of petrol vapour and air into the cylinder, exhaust valve closed

**Compression stroke.**

The inlet valve closes and the piston moves up the cylinder. This compresses the fresh fuel mixture into the combustion chamber, exhaust valve to close.

**The power stroke.**

Fully compresses the fresh fuel mixture and as a result a spark is produced at the spark plug. This causes the fuel mixture to ignite and expand resulting in pressure that forces the piston down the cylinder. Inlet valve closed exhaust valve closed.

Exhaust stroke

This is the last phase where the piston moves up the cylinder to eliminate the burned fuel mixture through an open exhaust valve. **(10 marks)**

**28. a)** **Procedure followed when constructing a barbed wire (5 marks)**

-Locate the fencing boundaries

-clear the fencing area

-mark places for gates, strainers and posts

-Dig out post holes

-Fix the corner gate posts

-Fix the standards posts

-Fix the wires using wire strainer **(5 marks)**

**b)** Advantages of battery system.

Higher egg produce due to less energy wastage.

Easy to keep individual production records.

Control cannibalism and egg eating.

No contamination of water and feed.

Birds are not exposed to predators, parasites and diseases.

Facilitates culling and handling.

Easy to collect eggs

Egg losses are reduced.

Many birds are kept in a given/high stocking rate.

Eliminates broodiness.

Birds still have tender meat at culling due to confinement.

Facilitates mechanization.

Keeps eggs clean. **(10 marks)**

**Five functions of any parts of a zero grazing unit (5 marks)**

**c)** Feed store – storage of livestock feed.

-Sleeping area – resting at night.

-Feeding area – feeding and water troughs with clean concentrates and water.

-Calf pen – handling / housing calves.

-Milking section – Milking parlour available for milking cows.

-Milk recording room – weighing milk.

-Feed preparation section – mixing of different types of feeds. **(5 marks)**