FORM 4

Marking scheme

1. - Many chicks can be hatched at a time.
* It is possible to plan when to hatch chicks.
* The incubator is usually ready when required
* If management is good, chicks have no danger of suffering from parasites or diseases.

 (½ x 4)

1. - To provide different forward speed.
* Allow the driver to select forward or reverse movement of the tractor.
* Allow the driver to stop the tractor without suddenly stopping the engine or without keeping his foot pressed on the clutch.
* Allow the driver to change the speed ratio of the tractor

(½ x 2)

1. - Plough

- Small size/light harrow

- Ridgers

- Rotary tillers

- Mowers

- Planters

- Seeders

- Cultivators/weeders

- Sprayers

- Shellers

 (½ x 4)

1. - Suckling the calf before milking
* Washing the udder with worm water
* Feeding the cow during milking
* Familiar noises such as whistling

(½ x 4)

1. - It is economical for farmers with enough zero grazing animals
* Liquid by-product of fermentation process is a better quality fertilizer
* Potentially harmful wastes of cow and pigs are removed from zero grazing enclosure.

(½ x 2)

1. I)- goats

- saanen

 - Toggenburg

* British alpine

poultry

 leghorns

 ancona

 minorca

 sykes

1. Land sub-division is the patitioning of land into small portions located in one area while land fragmentation is where single farmer owns several parcels of land scattered over a wide area.

|  |  |
| --- | --- |
| Disc Plough  | Mouldboard Plough  |
| 1. 1.
 | Suitable on field with stones,  | 1. 1.
 | Cannot be used on fields with stone,  |
|  |  Roots and stumps.  |  |  roots or stumps.  |
| 1. 2.
 | Does not invert the furrow slices  | 1. 2.
 | Inverts the furrow slices completely.  |
|  |  Completely.  |  |  |
| 1. 3.
 | More secondary operations are  | 1. 3.
 | Fewer secondary operations are  |
|  |  necessary after it has been used.  |  | needed.  |
| 1. 4.
 | Cuts at varying points.  | 1. 4.
 | Operates at uniform depth.  |
| 1. 5.
 | Not easily broken by obstacles.  | 1. 5.
 | Can easily be broken by obstacles.  |
| 1. 6.
 | Requires less power to pull when operating.  | 1. 6.
 | Requires more power to operate.  |

(Each correctly marched difference for 1mark)

1. - Body size or weight of the animal
* Age of the animal
* Animal’s activities
* Level of production

(½ x 4)

1. - mechanical method
* Heat treatment
* Chemical treatment
* Soaking in water

(½ x 4)

1. - Size of the air space(cell)
* Blood sport on the yolk
* Hair cracks on the shell
* Broken egg shell
* Porous shell

(½ x 4)

1. - Should not suffer from any contagious diseases.
* Physically clean
* Wear clean white overall when milking and handling milk.
* Should keep fingernail short
* Should cover the hair during milking and handling milk

(½ x 4)

1. - It is free from disease-causing organisms.
* It has no hair dirt or dust
* It is of high keeping quality
* Has good flavor
* Its chemical composition is within the expected standards

(½ x 4)

1. - temperature (37.5-39.4)
* Fresh air(oxygen)
* Relative humidity
* Egg turning

(½ x 4)

1. - mastitis
* Foot rot
* Contagious abortion
* Scours
* Black quarter
* Anthrax
* Pneumonia

(½ x 4)

1. -Tools should always be left in a safe place

-Use the correct tool for the correct job

-Tool should be maintained and served to remain in good working condition and last longer.

-Tool should be handle correctly when in use to avoid damage to th tool and injury to the user.

-Use of safety devices to reduce accidents

SECTION B

1. a) A- egg shell

 B-chalazae

 C-albumen

 D-yolk

b) No hair crack

 It should be porous

 Should not be broken

c) Supply food for the developing chick

1. (a). ox – plough

(b). A- Mould board

 B – Share

 C – Main beam

 D – Land – wheel

 E –Land – side

 (c). Function of.

 C – Attachment of all parts.

 -Adds weight for deeper ploughing`

 E – Stabilizes plough against thrust by furrow slices

1. a)

8 parts of MG

Calculating for

MG 20%

MG = $\frac{8}{10}$ x 100 = 80kg

WB = $\frac{2}{10}$ x 100 = 20kg

18

$\frac{2}{10 }$parts of WB

$Total parts$

parts of WB

2/10 total part

WB 10%

b) Trial and error

G –induction stroke

H –compression stroke

I –power stroke

J –exhaust stroke

(b) (2mrks)

Are expensive to buy and maintain

Their use is limited in areas

They require skilled personal and support services

**SECTION C**

1. a)

- Sort-term planning

* Long-term planning
* Information gathering
* Comparing the standards of one’s enterprises with the set standards
* Detecting weaknesses and constraints and finding ways and means to overcome them
* Keeping farm records up-to-date and using them in the day-to-day running of the farm.
* Implementing farm decisions and taking responsibility.

b)

- land

- labour

- capital

- management

c)

|  |  |
| --- | --- |
| **Petrol engine**  | **Diesel Engine**  |
| * 1.
 | It has a carburetor  | * 1.
 | It has an injection pump.  |
| * 2.
 | Fuel and air are mixed in the carburetor | * 2.
 | The fuel and air are mixed within the  |
|  |  before it gets into the engine.  |  | Cylinder.  |
| * 3.
 | Fuel is ignited by an electric spark.  | * 3.
 | Fuel is ignited by compression of air and  |
|  |  |  | Fuel mixture in the cylinder.  |
| * 4.
 | It produces little smoke because  | * 4.
 | It produces a lot of smoke since the diesel  |
|  | Petrol is completely burnt.  |  | Is not completely burnt.  |
| * 5.
 | Petrol engine is light in weight and  | * 5.
 | It is relatively heavy in weight and suited  |
|  |  Suited for light duties.  |  | For heavy duties.  |

22.

a)

Presents of broken eggs

Bright light in the nests

Idleness

Inadequate nets forcing birds to lay ggs on the floor

Lack of minerals such as calcium in the diet making look for mineral from the eggs

b)

Any sudden change such as change if feed

Presents of Strangers and predators

Handling of birds during management

Sudden noise such as thunder

Sudden change of weather

Disease and parasite infection

Lack of food and water

c)

High egg production due to less energy wasted by the birds

Accurate egg records can be kept because it is easy to know which bird has laid

Cannibalism and egg eating are controlled

The system can easily be mechanized

Birds do not contaminate food and water

 Eggs are clean because the hen do not step on them

Handling is easy as hen are restricted in a small place

Broodiness is discouraged as the birds do not reach the eggs

Large number of birds can be kept in small space hence higher stocking rate

Sick birds can be detected readily and isolated for treatment

Wire floors prevent re-infestation of parasitic worms and coccidian

there is no bullying during feeding

there is low labour requirement

a)

milk quickly and evenly

milk at regular times

avoid use of wet hand

complete milking

b)

udder cloths/towels

filtering pads

milking jelly

warm water

milking pails/buckets

strip cup

milking churn/cans

c)

 - Use of prophylactic drugs – Animals are given drug routinely to control certain diseases e.g. chicken are given.

 - Use of antiseptic and disinfectants: They contain germicidal chemicals e.g. elecauning poultry or calf pen with

 disinfectant help control certain diseases/maintain hygiene’s.

* + Qualantino – during an outbreak of certain notifiable disease like foot and mouth disease.

Livestock movement is restricted to avoid spread of diseases.

* + Isolation – Animals suffering from certain dangerous disease e.g. scours and brucullosis are isolated to prevent

the spread of the disease to the healthy ones.

* + Mass slaughter/culling: Animals suffering from certain dangerous diseases e.g. zoonotic disease like anthrax

should be slaughtered in mass to eliminate the disease.

* + Vaccination: Animals are usually vaccinated against certain diseases e.g. lumpy skin disease/black quarter.
	+ Control of vectors – Diseases carrying parasites e.g. Tsetse fly are controlled by spraying with appropriate

chemicals or bush clearing to control diseases like nagana.

* + Use of healthy breeding stock/AI healthy breeding stock or use AI help to prevent breeding diseases like brucellosis.
	+ Proper nutrition – well nourished animals are healthy and do not suffer from nutritional diseases like anaemia in piglets.
	+ Drenching/control of internal parasite. Internal parasites may cause diseases.
	+ Keeping resistant breeds of livestock. By keeping Zebu cattle occurrence E.C.F is reduced.
	+ Proper housing – this prevent diseases like pneumonia.
	+ Foot trimming – to minimize occurrence of foot rot.

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