**MECS CLUSTER JOINT EXAMINATION TERM II 2020.**

**AGRICULTURE PP2.**

**FORM 4**

**MARKING SCHEME.**

**SECTION A (30 MARKS) ANSWER ALL QUESTION IN THIS SECTION;**

1. Name any two dairy cattle breeds reared in Kenya. (1mk)
* Jersey
* Friesian
* Guernsey
* Ayrshire
1. List four materials that can be used in constructing a Kenya Top Bar Hive. (2mks)
* Timber/wood
* Plain wires
* Nails
* Iron sheets.
1. a) What is a zoonotic disease. (½mk)
* A disease that is transmitted from animal to man and from man to animals.

b) Give one example of zoonotic disease.( ½mks)

* Brucellosis / contagious Abortion/ Bang’s disease.
* Anthrax.
1. a) State four factors affecting feed digestibility in livestock. (2mks)
* Chemical composition of a feed.
* Form in which the feed is offered to the animal.
* Species of the animal.
* Quantity of food present in the digestive system of an animal.
* Ratio of energy to protein in a feed.

b) State two functions of crop in poultry digestive system.(1mk)

* Softening / Moistening food.
* Temporary storage of food.
1. Give three limitations of using solar power on the farm.(1½mks)
* Solar trapping devices are expensive.
* Solar power trapping is limited to day light.
* Requires skilled labour to handle the devices.
* Power supply fluctuates depending on weather condition.
1. State three reasons for carrying out egg candling before incubation. (1½mks)
* Detect broken egg shell.
* Check fertility.
* Check blood spot.
* Detect any cracks in the egg shell.
* Check the position & size of air space.
* Check whether the shell is very porous.
1. State two functions of a queen bee in a colony. (1mk)
* Lays eggs.
* Production of queen pheromone which keeps the colony together.
1. Give two categories of tractor drawn implement on the basis of the mode of attachment. (1mk)
* One point hitch implement.
* Three point hitch
1. State two advantages of natural calf rearing. (1mk)
* Less laborious.
* Calf get milk at the right temp.
* Calf takes milk at its own pace.
* Low chances of milk contamination.
1. Distinguish between each of the following terms as used in livestock rearing practices.

a) Steaming up and flushing. (1mk)

* Steaming up is the provision of extra high quality feeds to an animal during the last weeks of gestation while flushing is the provision of high quality feeds to an animal a few weeks before and after mating.

b) Kindling and farrowing. (1mk)

* Kindling is the act of giving birth in rabbits while farrowing is the act of giving birth in pigs.
1. Give four reason of using litter in a deep litter poultry rearing system. (2mks)
* Absorb moisture.
* Provide warmth.
* Keep birds busy thro’ scratching.
* Make birds comfortable.
1. Give four factors considered when sitting a fish pond in a farm. (2mks)
* Topography.
* Source of water.
* Soil type.
* Security.
* Accessibility.
1. State four reasons for castrating male kids not required for breeding in a farm. (2mks)
* Increase quality of meat by removing unpleasant smell.
* To control breeding.
* To control breeding diseases.
* For faster growth rate.
* To steer fattening.
1. Mention four physical characteristics of exotic beef cattle breeds. (2mks)
* Blocky in shape.
* Strong short legs.
* Small udder.
* Bodies well fleshed.
* Have thick neck.
1. State four reasons that necessitate handling of livestock in the farm. (2mks)
* When milking
* When spraying
* When administering any form of treatment.
* When inspecting the animal to ascertain any abnormality & pregnancy check.
* When carrying out routine management practices e.g castration, identification, hoof trimming.
1. List three factors that influence the strength of concrete. (1½mks)
* Cleanliness of the water used.
* Degree of compaction.
* Ratio of cement to other aggregates.
* Quality of sand used.
* Curing.
1. Name three routes through which vaccines can be administered in livestock. (1½mks)
* Through the cloaca.
* Through the nose / through inhalation.
* Orally through the mouth.
* By injection.
* Through the eye/ ocular.
1. Name four ways of increasing ploughing depth of the disc plough. (2mks)
* Use of hydraulic arms.
* Raising or lowering the depth wheel.
* Use of the furrow wheel.
* Adding weight to the beam.
* Decreasing the angle of cut.

**SECTION B (20 MARKS) ANSWER ALL QUESTION IN THIS SECTION;**

1. a) Using a Pearson’s square calculate how much of wheat (35% D.C.P) would be mixed with sunflower seedcake (10% DCP) to come up with duck mash (20 % DCP ) on a ration weighing 200kg. (show your working) (4mks)

 Wheat 35% 10 parts of wheat.

 20%

 20

Sunflower seedcake 10% 15 parts of sunflower seed cake.

 25 Total parts.

Wheat = 10 x 200

 25

= 80kgs.

Sunflower seedcake = 15 x 200

 25

 = 120kgs.

b) Apart from the Pearson’s square method name the other method used in livestock feed computation. (1mk)

* Trial and Error.
1. The diagrams below represent some farm tools and equipment. Study them carefully and answer the questions that follow.

a) Identify the tools labeled A and B. (2mks)

 A – Stock & die.

 B – Plumb bob.

b) State one use of each of the tools labeled C and D. (2mks)

 C – Chops forage for livestock.

 D – Shearing of wool from sheep’s body.

c) Explain one maintenance practice carried out on tool D. (1mk)

* Clean after use.
* Sharpen the cutting blades.
* Store properly after use.
1. The diagram below shows livestock production equipment. Study it and answer the questions that follow.

a) Identify the equipment. (1mk)

* Artificial vagina

b) What is the importance of the warm water in the equipment. (1mk)

* Provide optimum temperature same as body temp that stimulates the bull to ejaculate.

c) Describe the procedure followed when using the equipment in collecting semen.

* A teaser cow is restrained in a crush.
* A bull is then brought to the teaser cow.
* When the bull mounts on the teaser cow and directs the penis to the vulva, the penis is grabbed & directed to the artificial vagina.
* The bull ejaculates & the semen is collected.
* The bull is dismounted & the teaser cow released.
1. The diagram below shows various methods of a practice in livestock production.

a) Name the practice. (1mk)

* Identification.

b) Name the methods A, B, and C (3mks)

* A – Branding
* B – Ear notching.
* C – Ear tagging.

c) State one disadvantages of method A. (1mk)

* Destroys the hide & skin – hence reducing quality of hides & skins.
* Causes pain on the animal.
* Introduction of a lot of stress which may lead to slow growth.

**SECTION C (40 MARKS) ANSWER ANY TWO QUESTION IN THIS SECTION;**

1. a) State five signs of parturition in a cow. (5mks)
* Swollen vulva
* Restlessness.
* Distended udder.
* Clear mucus discharge from the vulva.
* Slackening of pelvis muscles.
* Water bag appears & burst.
* Colostrum from teats comes out.

**(5 points each one mark)**

b) State five control measures of Round worms (Ascaris lumbricodes) in livestock. (5mks)

* Rotational grazing.
* Proper sanitation.
* Drenching / Deworming with appropriate anti-hel-mintics.
* Avoid contamination of food with faeces.
* Proper use of latrines by the farm workers.

**(5 points each one mark)**

c) Describe coccidiosis disease under the following sub-headings.

1. Animal attacked.
* Poultry, calves, Young rabbits (kidlings), kids & lambs.

**( Mark any 2 for 2 marks)**

1. Symptoms of attack.
* Diarrhoea
* Dysentry.
* Emaciation.
* Birds have raffled feathers.
* Dullness in birds.
* Loss of appetite.
* Drooping wings in birds.
* Sudden death.

**(5 points each one mark)**

1. Control
* Use of coccidiostats.
* Isolation of the infected animals.
* Avoid overcrowding.
* Avoid wet filthy surroundings.
* Avoid watering cattle from different farms in a common watering point.

**(3 points each one mark)**

1. a) Outline five factors that contribute to the distribution of livestock in Kenya. (5mks)
* Temperature
* Rainfall distribution & amount
* Altitude
* Parasite & diseases
* Market
* Preference & choice
* Labour & skills.

 **(5 points each one mark)**

b) Describe five maintenance practices carried out on rotary mower. (5mks)

* Replace worn out blades .
* Clean after day’s work.
* Lubricate rotating parts.
* Sharpen blunt blades.
* Tighten loose nuts and bolts .
* Paint / smear with old engine oil for long storage.

 **(5 points each one mark)**

c) Discuss five factors affecting milk composition in livestock production. (10mks)

* Age of animal. older animals have low butter fat composition while young animals have higher butter fat composition.
* Condition of the animal/ physiological condition of the animal – sickness, pregnancy, emaciation may lead to substantial drop in milk butter fat content.
* Stage of lactation & pregnancy.

Proteins and minerals increase in the second phase of lactation.

Butter fat content is higher at the middle phase of lactation.

* Breed differences.

Different breeds of animals produce milk with different percentage composition e.g Jersey has a high protein composition compared to other breeds.

* Type of food eaten by the animal.

Animals fed on large amount of roughage produce milk with high fat content.

* Season of the year.

Fat percentage increases during the cold season of the year.

* Disease.

Diseases like mastitis reduce lactose composition in milk.

* Completeness of milking.

Milk produced by an animal in the morning has lower fat content than that drawn in the evening.

**(10 points each one mark)**

1. a) Describe the artificial rearing of layers chick from one day up to the end of brooding. (10mks)
* Ensure brooder corners are rounded.
* Provide enough brooding space.
* Clean and disinfect the brooder.
* Provide dim light.
* Provide adequate clean water.
* Control parasites / Dusting with appropriate insecticides.
* Keep records.
* Cull sick chicks.
* Maintain proper ventilation.
* Debeak 8 – 10 days before end of brooding.
* Provide adequate food for the chicks.
* Vaccinate against disease.

**(5 points each one mark)**

b) Outline the uses of fences in the farm. (10mks)

* Keeps off stray animals & wild animals.
* Adds aesthetic value / beauty.
* Add value to the farm.
* Provides livestock feeds.
* Help control parasites and diseases.
* Act as windbreakers.
* Control breeding.
* Marking boundary.
* Keep off intruders e.g thieves/ provide security.
* Control grazing by use of paddocks.
* Conservation of soil e.g live fences
* Provide fuel to the farmer.
* Provide fruits to the farmer.

 **(10 points each one mark)**