**TOP EVALUATION EXAMINATION - 2016**

**Agriculture Paper 2**

**FORM 3**

**JULY/AUGUST**

 **MARKING SCHEME**

1. Mention **four** factors affecting livestock industry in Kenya. (2 marks)

*Tradition and belief*

*Product/ input prices*

*Management*

*Capital*

*Selling prices marketing*

*Climatic conditions*

*Communication/ transport*

*Diseases and parasites*

2. give **four** reasons for keeping camel by Kenyan farmers. (2 marks)

*To provide milk.*

*To provide meat.*

*To provide leather, wool*

*To help in transport of people/load*.

3. Name the **four** pig breeds kept in Kenya. (2 marks)

-*Large white*

*-Saddleback*

*-Landrace*

*-Hampshire*

4. mention **four** characteristics of exotic cattle breeds. (2 marks)

.

-*No humps*

*-Produce more milk*

*-Easily attacked by tropical diseases*

*-Susceptible to tropical heat*

*-Cannot tolerate hardy areas*

*-Early maturing*

5. Why is it important to keep livestock healthy? (2 marks)

*Healthy animals give high income due to low treatment costs.*

*The productive life span of a healthy animal is longer*

*High production*

*Healthy animals can multiply regularly*

*Healthy animals give high quality products.*

*Safety of consumers of livestock products.*

6. Identify **four** ways in which livestock diseases are categorized. (2 marks)

*Notifiable diseases*

*borne diseases*

*Breeding diseases*

*Nutritional*

*Parasitic diseases*

7. list **four** examples of ecto-parasites. (2 marks)

* *ticks*
* *tsetse flies*
* *lice*
* *mites*
* *fleas*
* *keds*

8. Mention **four** factors that determine the requirements of water by livestock. (2 marks)

* *Livestock Production level*
* *Amount of dry matter eaten*
* *Temperature of the surrounding area.*
* *Type of animal*
* *Type offood eaten*

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9.Give **four** roles of proteins in the body of livestock. (2 marks)

* *Growth of new tissues*
* *Repair of worn out tissues (body building).*
* *Synthesis of antibodies*
* *Synthesis of hormones and enzymes*
* *Production of energy during starvation.*

10. Identify **four** sources of minerals needed by livestock. (2 marks)

* *Salt licks*
* *bone meal*
* *legumes*
* *cereals.*

11. state **four** characteristics of roughages. (2 marks)

* *Low level of available nutrients*
* *Have high level of calcium especially legumes.*
* *Good source of vitamin A*
* *Have high fibre content*

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12. Identify **four** factors to consider when selecting a goat for breeding. (2 marks)

* *Fertility*
* *Mothering ability.*
* *Growth rate*
* *Twining rate*
* *Carcass quality/dressing percentage*
* *Growth rate.*
* *Suitability to the enterprise -milk or mutton*
* *Health of the animal*
* *Age.*

13. Mention **four** signs of heat in pigs. (2 marks)

* *Restlessness*
* *Frequent urination*
* *Swelling and reddening of the vulva*
* *Clear or slimy discharge from the vulva.*
* *Frequent mounting on others*
* *It responds very well to the 'riding test'.*

14. Define the following terms. (2 marks)

(a) Castration

*It is the rendering unserviceable the testicles of a male animal.*

(b) Caponisation

*It is the practice of making male birds lose their male characteristics by use of hormones.*

15. List **four** types of farm fences. (2 marks)

*Dead fences*

*Barbed wire fences*

*Electric fence.*

*Concrete fence*

*Chicken wire fence (mesh wire fence)*

*Woven wire fence (chain link)*

*Wooden fence*

**SECTION B: (20 MARKS)**

***Answer all the questions in this section in the spaces provided.***

16. (a) The diagram **below** represents roof of a building.

A

D

C

B

 (i) Identify the parts labeled **A**, **B**, **C** and **D**. (4 marks)

 **A** : *Strut*

 **B** : *Purlin*

 **C** : *Rafter*

**D:** *Crosstie board*

 (ii) Give **four** factors considered when sitting farm buildings and structures. (2 marks)

* + *Accessibility.*
	+ *Nearness to social amenities.*
	+ *Direction of prevailing wind.*
	+ *Topography of the area.*
	+ *The soil type.*
	+ *Government policy.*
	+ *Future expansion.*
	+ *Farmer preferences / paranomic view.*
	+ *Gradient / drainage.*
	+ *Sewage disposal.*
	+ *Aspect.*
	+ *Security*

(b) Give **four** advantages of using synthetic materials in construction of farm structure. (2 marks)

* *light*
* *cheap*
* *can be moulded into any shape*
* *are durable*
* *cannot be destroyed by insects and fungus*
* *are water-proof.*

17. Below is reproductive system in a bull. Use it to answer questions that follow.



1. Name the parts labeled: (2 marks)
2. *Anus*
3. *Vas deferens*
4. Give the function of the parts labeled: (5 marks)

1 – *conveys sperm*

*2 – produce semen.*

*8 – Storage of sperms(spermatozoa)*

*9 – produce spermatozoa/sperms*

*10 – regulate temperature of testis.*

18. The pictures below show dairy breeds of cattle. Use it to answer questions that follow.



Breed A 1



Breed A 2

1. Identify: (2 marks)
2. Breed A1

*Friesian*

1. Breed A2

*Jersey*

1. Give **three** advantages of keeping breed A2 over bread A1. (3 marks)
* *Can tolerate high temperatures*
* *High butter fat content*
* *Small size hence less food required*
* *Can utilize poor pasture well.*

**SECTION C (40 MARKS)**

***Answer any two questions from this section in the spaces provided.***

19. Using appropriate illustration, describe the process of egg formation in a layer. (20 marks)

*Ovary*

* *Produces ova*

*Infindibulum*

* *Site of fertilization and storage of sperm calls*
* *Yolk takes 15 minutes here*

*Magnum*

* *Albumenis added*
* *Egg takes 3 hours here*

*Isthmus*

* *Secretes the shell membrane*
* *Water, minerals and vitamins*
* *Process takes 1 ¼ hours*

*Uterus/ shell gland*

* *Has calcium deposits*
* *Shell added round eggs*
* *Completes the addition of albumen*
* *Process takes 18 –22 hours*

*Vagina*

* *Pigmentation of egg takes place here*
* *Socrates mucus which reduces friction and facilitates expulsion of the egg*
* *Takes 1. 10 minutes*

*Cloaca*

* *-Delivers the egg out gently*

1 x15=15 marks

**Diagram well labeled – 5 marks**

19. (a) State **five** advantages Artificial insemination. (5 marks)

*Cheap / can be afforded by many farmers*

*Controls breeding diseases /*

*One male can serve many females*

*Makes use of good bulls/ quick way of improvement*

*Young/ small females not injured*

*Used to prevent inbreeding*

*Semen can be used in distant places*

b) Describe how a gilt is reared from the time of weaning to the time it farrows. (15 marks)

* *Feed gilt on atleast 3 kg of sow and weaner meal daily*
* *Provide clean drinking water*
* *Vaccinate the gilt to control common diseases*
* *Control external parasites by dusting with pesticides*
* *Treat gilt of sick*
* *House the gilt next to a boar at age of 12 months*
* *Ready to be served/ serve it at right age and weight*
* *Keep the pen clean by maintaining clean litter*
* *Flush gilt 3-4 weeks before service by feed on high quality diet*
* *Take gilt to the boars pen for service and let it stay for at least 12 hours.*
* *Observe the return to heat, if any, after three weeks, and repeat the service if necessary.*
* *Steaming up should start 1 ½ months before farrowing by giving 3-4 kg of feed*
* *7-10 days before farrowing, the gilt should be washed and moved into a clean and disinfected farrowing pen.*
* *Sow and weaner meal should be reduced three days before farrowing*
* *Observe the signs of farrowing, and supervise the farrowing process.*
* *Deworm the gilt 7-10 days before farrowing.*

20. (a) Describe the life-cycle of a tapeworm. ( 8 marks )

* *Man is the main host of tapeworm / primary host.*
* *Intermediate host are cattle and pigs.*
* *Man drops the tapeworm segments in the faeces.*
* *Eggs released from proglottids to the pasture.*
* *Eggs picked up by the intermediate host.*
* *Eggs hatch to embryos penetrate intestinal wall and enter blood stream.*
* *Embryos go to the liver and distribute to muscles where they develop into cyst / blander worm.*
* *Inside the host eggs develop in cysts / blander worms.*
* *Cyst are found in the muscles of the animal.*
* *If man eats meat with cysts, become infected.*
* *Cyst wall dissolve in the intestine and parasites attach themselves on the intestine wall to develop*

 *into adult tapeworms.*

b) Describe the digestion of grass in the rumen of a ruminant. (6 marks)

* *Cow picks up material very fast, chews mixing with saliva and swallows.*
* *Later it chews cud, mixing the feed with more saliva.*
* *There is no enzymatic digestion in the mouth as cattle do not have ptyalin enzyme in their saliva.*
* *After the food is mechanically broken in the mouth, it is passed onto the rumen.*
* *The rumen stores the food temporally and during this time it churned mixed and soften with water.*
* *Micro-organisms break down the carbohydrates cellulose, starch and simple sugars.*
* *The results of micro-organism digestion are volatile fatty acids, microbial proteins, gases such as methane and vitamin B2 and K.*
* *Most of the volatile fatty acids are absorbed through the rumen wall and what remains goes into the reticulum.*

c) Give **six** ways of controlling ticks. (6 marks)

* *Use of chemicals/ acaricides*
* *Ploughing the pastures or crop*
* *Burning infested pasture*
* *Hand picking and killing*
* *Rotational grazing*
* *Fencing the farm*