K.C.S.E AGRICULTURE PAPER 1 2006

SECTION A (30 marks)

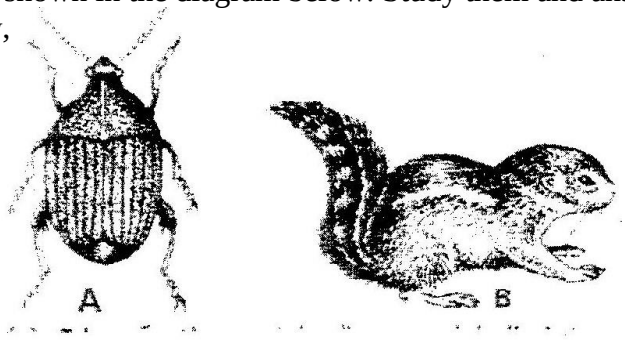
Answer all the questions in this section in the spaces provided

1. Differentiate between Olericulture and pomocullure as used in crop production (1 mk)
2. State three ways by which biological agents can enhance the process of soil formation (1 ½ mk)
3. State four advantages of drip irrigation (2 mks)
4. State four advantages of adding organic manure to a sandy oil (2 mks)
5. State two factors that would determine the amount of fertilizer to be top dressed to a crop in the field (1 mk)
6. State four advantages of applying lime as a measure of improving soil condition (2 mks)
7. Give four reasons for using certified seeds for planting (2 mks)
8. Give four reasons for planting crops at the correct spacing (2 mks)
9. State three effects of soil erosion (2 mks)
10. Name four methods used to control weeds in pastures (2 mks)
11. State two benefits of conserving forage crops (2 mks)
12. Mention four practices that should be carried out to maintain grass pasture (1 ½ mks)
13. Define the following terms as used in agriculture economics
    (a) Gross domestic product (GDP) (1 ½ mks)
    (b) Per capita income (½ mks)
14. What is profit maximization in agriculture economics? (½ marks)
15. State four benefits of budgeting to a farm manager (2 mks)
16. Give two reasons why farmers keep farm accounts
17. State activities carried out by young farmers club in Kenya (2 mks)
18. State four ways by which afforestation helps in land reclamation (2 mks)
19. State three advantages of multiple stem pruning over single stem pruning in coffee (1 ½ mks)

SECTION B (20 mks)

Answer ALL the questions in this section in the spaces provided

20. Two maize pests are shown in the diagram below. Study them and answer the questions that follow,



(a) Identify the pests in the diagram labeled A and B (1 mk)
(b) at what stage of maize production does each damage the crop?
(c) Give one way of controlling each of the pests in the field

21 (a) state the law of diminishing returns in a production process

(b) Use the information on the table below to answer the questions that follow

Fertilizer input (units)	Maize yield (bags)	Marginal productions (bags)
0	50	12
1	62	12
2	66	4
3	68	2
4	69	1
5	69	0

The cost of fertilizer is Kshs 1500 per unit and the price of maize is Kshs 1200 per bag.

(i) At what unit of fertilizer input should the farmer be advised to stop applying any more fertilizer to the maize? (1mk)

(ii) Give a reason for your answer in (b) above

(iii) Calculate the marginal return at the point of optimum production (1mk)

22. (a) Describe the procedure which should be followed in spraying a crop in tomatoes using a fungicide in powder form, water and a knapsack sprayer. (3 mks)

(b) Name one fungal disease of tomatoes that can be controlled using the above procedure. (1mks)

c) State four safety measures that should be taken while spsraying the crop with the fungicide. (2mks)

23. The diagram below shows a weed

a) Identify the weed (1mk)

b) State two reasons for controlling the weed. (2mks)

c) Name two herbicides that can be used to control the weed in a field of maize (1mk)

d) A t what stage of growth of maize should the weed be controlled using a post emergence herbicide'?

SECTION C (40 MARKS)

Answer any TWO questions in this section in the spaces provided at the end of the section.

24. Describe the establishment of kales under the following sub – headings:
    a) Nursery preparation
    b) Establishment in the nursery
    c) Management of seedlings in the nursery.
    d) Transplanting of seedlings.
25. a) Outline the factors necessary for proper functioning of farmers' co-operative societies in Kenya. (5mks)
    b) Explain how farmers overcome risks and uncertainties in a farming business.
    c) Describe the steps farmers should follow when planning a farm business
26. a) List various methods of harvesting water in a farm
    b) Outline farming activities which may encourage soil erosion.
    c) Explain how various farming practices would help to conserve soil in a farm.

K.C.S.E. 2006 PAPER 2

SECTION A (30 MARKS)

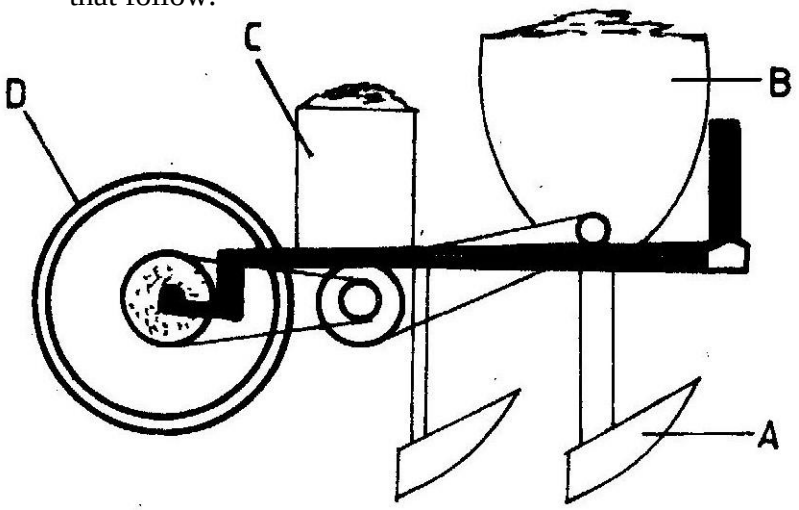
Answer ALL the questions in this section in the spaces provided.

1. Name a breed of sheep with a Lambing percentage of above 125 and whose fleece may be inferior due to black fibres. (1mk)
2. List two appropriate hand tools needed to finish off the handle of a fork-jembe. (1mk)
3. What is "cropping" in fish farming? (1mk)
4. State four functions of lubrication system in a tractor. (2mks)
5. Give four maintenance practices carried out on the water cooling system of a tractor. (2mks)
6. State reasons why a farmer would choose to use a disc plough rather than a mould board plough. (2mks)
7. State four construction features necessary in a fish pond. (2mks)
8. Give four ways in which disease causing organisms can gain access into a newly born calf (2mks)
9. State four ways of controlling tsetse flies. (2mks)
10. Give two predisposing factors of foot-rot in sheep. (1mk)
11. State four factors which should be considered when selecting dairy goats for breeding. (2mks)
12. Give four reasons why camels are suited to living in arid areas. (2mks)
13. Name two functions of the crop in the digestive system of chicken. (1mk)
14. State four methods of dehorning (2mks)
15. Mention six causes of stress to a flock of layers. (3mks)
16. State four functions of the worker bees in a bee colony. (2mks)
17. State four features of a good pig house. (2mks)

SECTION B (20 MARKS)

Answer ALL the questions in this section in the spaces provided.

18. (a) A diagram of a planter is shown below. Study it and answer the questions that follow.



(i) Identify the parts labelled A, B, C, and D, (2mks)

A _____

B _____

C _____

D _____

(ii) State two maintenance practices carried out on the planter. (2mks)

b) Study the diagrams of workshop tools shown below

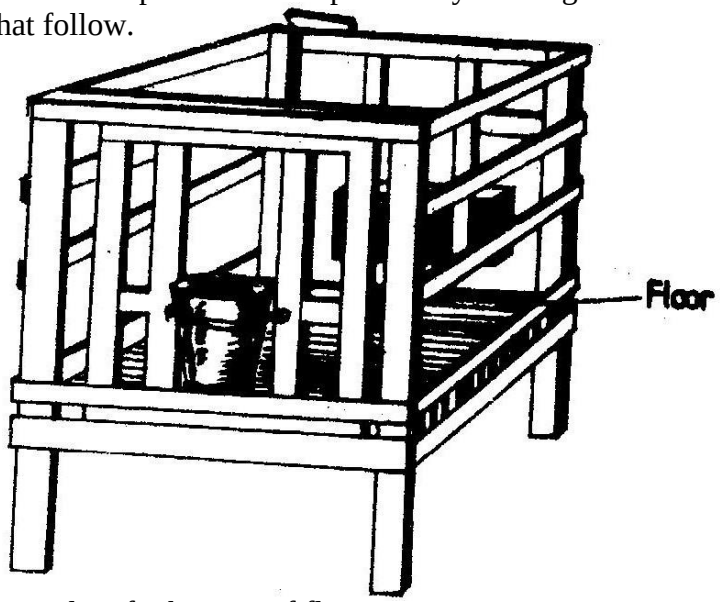
(i) Identify the tools labeled E and F (1mk)

E _____

F _____

(ii) What functional advantage does tool E have over tool F? (1mk)

19. The diagram below represents a calf pen. Study the diagram and answer the questions that follow.



(a) (i) Identify the type of floor. (½ mk)

(ii) How high should the floor be raised above the ground level? (1mk)

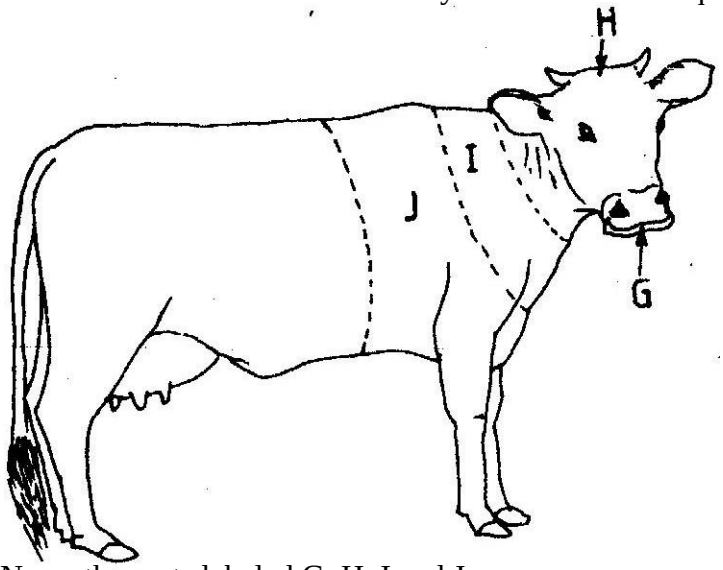
(b) (i) Give one reason for having the floor of the calf pen raised. (1mk)

(ii) State three factors that should be considered in sitting the calf pen. (3mks)

20. (a) Define the term digestible Crude Protein (DCP) (½ mk)

(b) A farmer wanted to prepare a 200kg of calf rearing ration containing 20% DCP. Using the Pears Square Method, calculate the amount of Maize containing 10% DCP and Sunflower containing 35% DCP the farmer would need to prepare the ration. (Show your work) (4mks)

21. A diagram of a cow is shown below. Study it and answer the questions that follow.



(a) Name the parts labeled G, H, I and J.

G _____

H _____

I _____

J _____

(b) Name four parts of the animal preferred by a two host tick. (2mks)

SECTION C (40 MARKS)

Answer any TWO questions in this section in the spaces provided at the end of the section.

22. a) Outline the procedure followed when hand spraying cattle to ensure effective use of acaricides to control ticks. (10mks)

    b) Discuss Foot and Mouth disease under the following headings:
    - (i) Casual organisms. (1mk)
    - (ii) Livestock species attacked. (2mks)
    - (iii) Symptoms of attack. (4mks)
    - (iv) Control measures. (3mks)

23. a) Describe the management practices that a farmer should carry out to improve milk production in a low yielding herd of dairy cattle.(15mks)

    b) Describe the management practices that would ensure maximum yield of fish in a fish pond. (5mks)

24. a) What are the advantages of farm mechanization? (6mks)

    b) Explain the differences between a two stroke and a four stroke cycle engine. (6mks)

    c) Outline the daily maintenance practices that should be carried out on a farm tractor (8mks)

K.C.S.E 2007 AGRICULTURE PAPER 1
SECTION A [30 MARKS

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

1. Give **four** conditions of the land which may make it necessary to carry out reclamation practices. [2marks]
2. List **three** physical weathering agents in the soil formation process [$1^1/_2$]
3. State **two** mechanical methods of separating soil particles according to size during soil analysis [1marks]
4. Give **two** benefits of possessing a land Title Deed to a farmer. [1mark]
5. Give four advantages of crop rotation [2 marks]
6. State four factors that should be considered when classifying crop pest
7. State **three** functions of boron in crop development. [$1^1/_2$]
8. Outline **four** observable indicators of economic development of a nation [2marks]
9. Give three factors that may influence the price of an agricultural commodity.[$1^1/_2$]
10. Name three examples of leguminous fodder crops. [$1^1/_2$]
11. Give two factors that may determine the size of a pit for silage making [1mark]
12. Give three reasons for controlling weeds in pastures. $1^1/_2$
13. State six characteristics of a productive soil. (3 mks)
14. State any five qualities that should be considered when selecting seeds for planting (2 ½ mk)
15. (a) State four practices which encourage soil erosion (2 mks)
    (b) Name two forms of gulley erosion (1 mk)
16. (a) State four advantages of land consolidation (2 mks)
    (b) Give two advantages of leasehold tenure system in farming (1 mk)

SECTION B (20 MARKS)
Answer all the questions in this section in the spaces provided

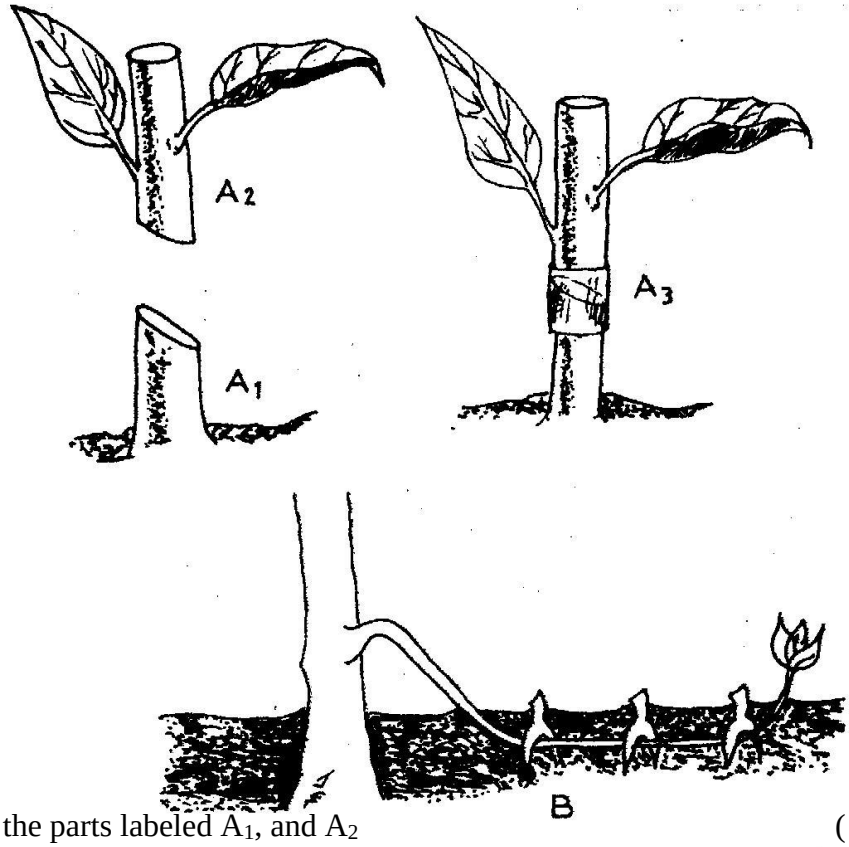
17. The table below shows the demand and supply of potatoes at UKULIMA market.

Price (Kshs)	Quantity demanded (in bags)	Quantity supplied (in bags)
1200	50	250
1000	90	200
800	150	150
600	225	70
400	335	0

(a) Using suitable scales, draw and label a graph showing the relationship between the demand and supply of the potatoes at UKULIMA market. (5 mks)
(b) What is the equilibrium price of the potatoes? (1 mk)
(c) From the graph determine:
    (i) The number of bags of potatoes that would be bought if the price per bag is Kshs 900/= (1 mk)

    (ii) The price of a bag of potatoes if 180 bags are supplied (1 mk)

18. The diagrams labeled A_1, A_2, A_3, and B below illustrate materials and methods of vegetative propagation. Study them and answer the questions that follow.



(a) Name the parts labeled A_1, and A_2 (2 mks)

A_1

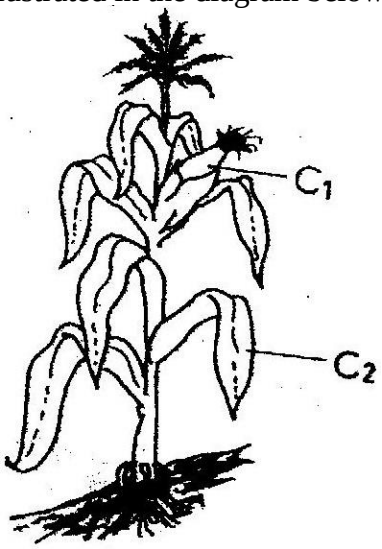
A_2

(b) Name the methods of propagation illustrated in diagrams A_3 and B (2 mks)

A_3

B

19. Study the crop illustrated in the diagram below and answer the questions that follow



(a) Name one insect pest which attacks the part labeled C_1 and one disease which attacks the part labeled C_2 (2 mks)

C_1

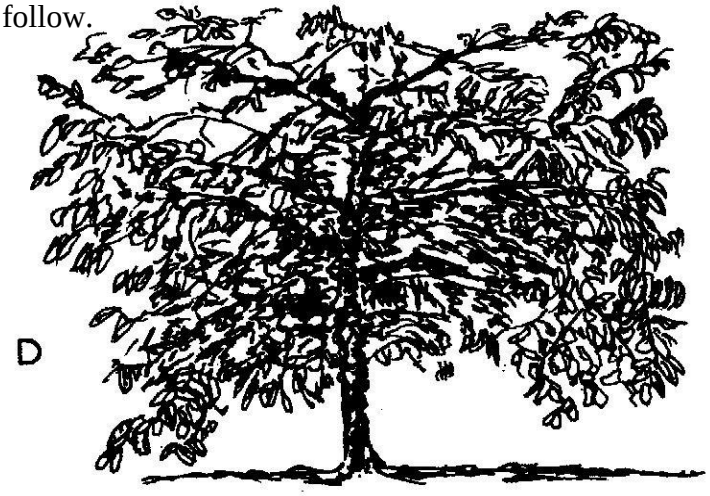
C_2

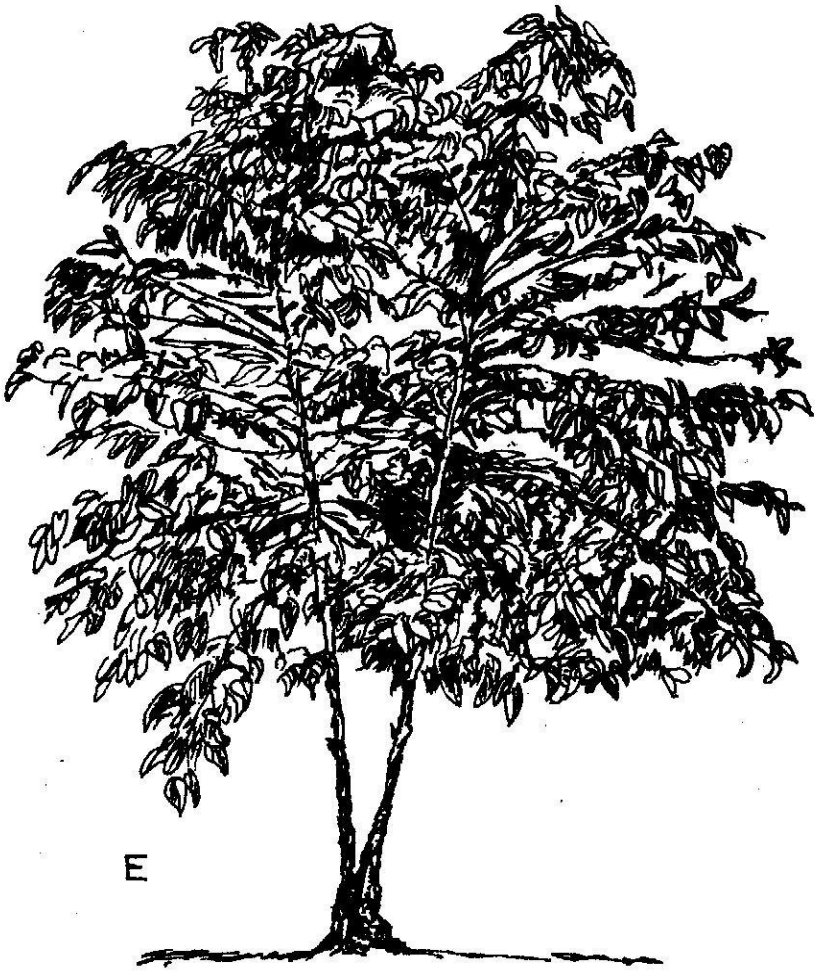
20. A member of young farmers club was advised to apply a complete fertilizer 30: 20:10 in a tomato plot measuring 10m long by 5m wide at the rate of 300kg per hectare

(a) State the percentage of P_20_5 in the complete fertilizer (1 mk)

(b) Calculate the amount of fertilizer the member would require for the plot (2 mks) (Show your working)

21. The diagrams labeled D and E below are illustrations of coffee established using two different formative pruning systems. Study them and answer the questions that follow.





(a) Name the system of pruning illustrated in diagram D above (1mk)
(b) Outline how the pruning system illustrated in diagram E is carried out (2 mks)

SECTION C (40 MARKS)

Answer any two questions in this section in the spaces provided after questions 24

22. (a) Describe the field production of irrigated rice under the following sub-headings
    (i) Land preparation (7 mks)
    (ii) Water control (6 mks)

(b) Describe the management of trees grown under various agro- forestry systems (7 mks)

23. (a) Describe the problems of marketing of agricultural produce (10 mks)

(b) Discuss the importance of budgeting in agricultural production (10 mks)

24. (a) Discuss the importance of irrigation if farming (12 mks)

(b) Explain the factor that influence the type of irrigation to be used in a farm (8 mks)

K.C.S.E 2007 AGRICULTURE PAPER 2

SECTION A (30 marks)

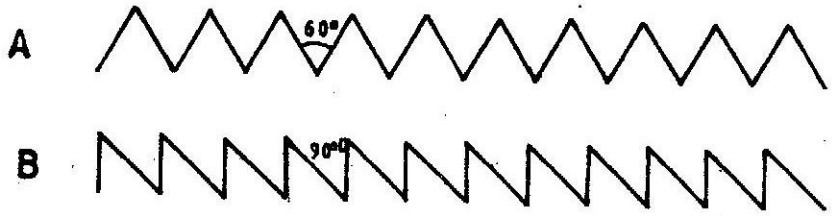
Answer ALL the questions in this section in this section in the spaces provided.

1. Give two reasons for using litter in a poultry house. (1mk)
2. Name two diseases of poultry that are controlled by vaccination. (1mk)
3. State two factors that could lead to failure to conceive in sows after service. (1mk)
4. Give tow causes of scouring in calves. (1mk)
5. State three factors that would determine the amount of concentrate fed to dairy cattle.(1 ½ marks)
6. Give three ways of stimulating milk let-down in a dairy cow.(1 ½ marks)
7. State tow reasons for dehorning cattle. (1mk)
8. List two equipment used in handling cattle during an agricultural exhibition.(1mk)
9. State three signs of anthrax infection disease observed in the carcass of cattle.(1 ½ mks)
10. Give three effects of external parasites that are harmful to livestock. (1 ½ mks)
11. State four factors to consider when siting a fish pond. (2mks)
12. State three adjustments that should be carried out on a tractor – mounted moulboard plough in preparation for ploughing. (1 ½ mks)
13. a) Name four breeds of dairy goats. (2mks)
    b) Mention two distinguishing characteristics of the Bactrian camel breed. (1mk)
14. State five methods of maintaining good health in livestock. (2 ½ mks)
15. List four sources of farm power which are environmental friendly. (2mks)
16. State three maintenance practices that should be carried out on a feed trough. (1 ½ mks)
17. Name four systems of a tractor engine. (2mks)
18. List three types of calf pens. (1 ½ mks)
19. State four conditions that would encourage hens to eat eggs in poultry production (2mks)

SECTION B (20 MKS)

Answer ALL the questions in this section in the spaces provided.

20. The diagrams labeled A and B below show the teeth arrangements in hand workshop tools.



a) Identify the tools represented with by the teeth arrangements A and B.(1mk)

A ……..

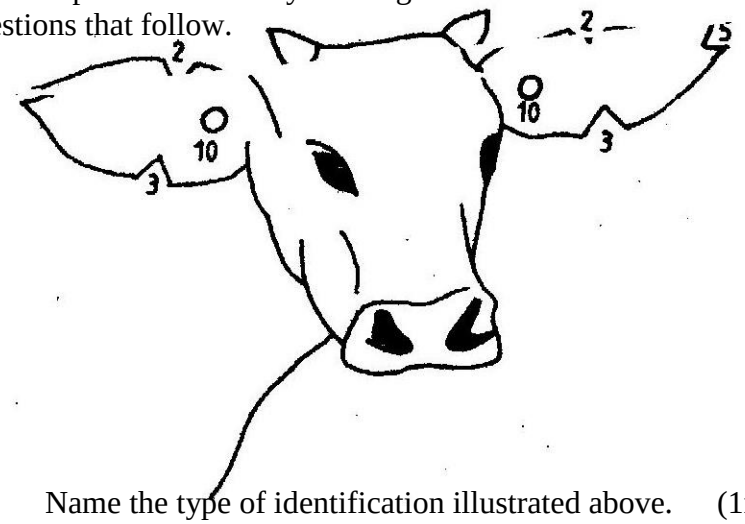
B ……..

b) State one functional difference between tools represented by the teeth arrangements A and B.

A ……
B ……

c) Give two maintenance practices for the tools represented by the teeth arrangement shown above. (2mks)

21. a) The diagram below illustrates a method of identification in livestock production. Study the diagram and answer the Questions that follow.



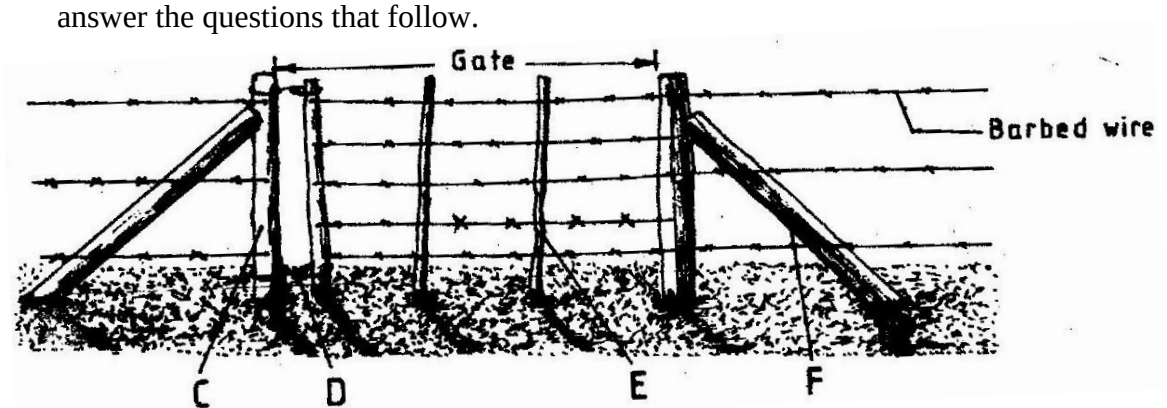
i) Name the type of identification illustrated above. (1mks)

ii) Give the identification number of the animal illustrated in the diagram above. (1mk)

iii) Using diagrams illustrate how you can identify animals Nos 24 and 36 using the above method. (2mks)
Animal No. 24
Animal No. 36

(b) If a sow was successfully served on 27th September, 2006, state the date she is likely to have farrowed. (1mks)

22. The diagram below shows a type of a farm gate. Study the diagram and answer the questions that follow.



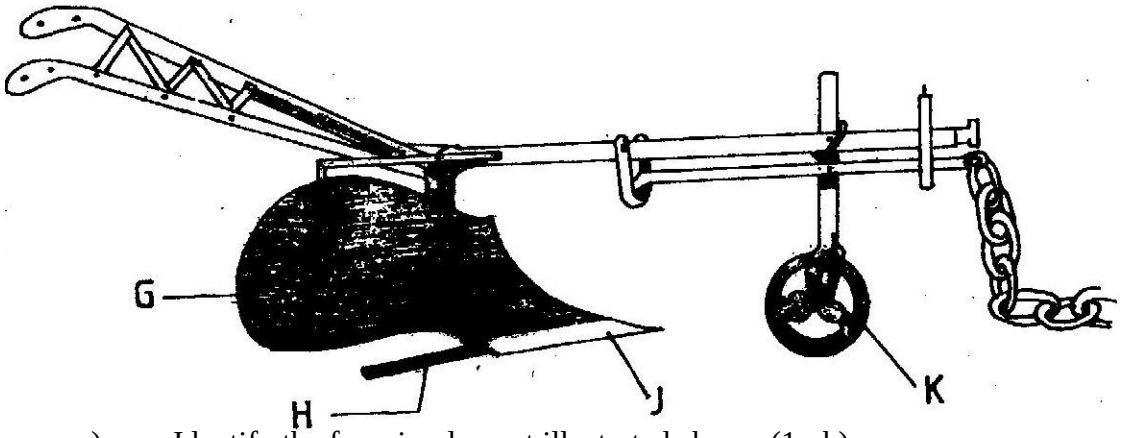
a) Identify the type of gate shown (1/2 mk)

b) Name the parts labeled C, D and E. (1 ½ mks)
C ……..
D ……
E ……..

c) i) State one function of the part labeled F. (1mk)
F ……

ii) State two functions of the gate illustrated above. (2mks)

23. The diagram below shows a farm implement. Study it and answer the questions that follow.



a) Identify the farm implement illustrated above. (1mk)
b) Name the parts labeled G, H, J and K.
G ……
H ……...
J ……
K ……..
c) State four functions of the farm implement illustrated above. (2mks)

SECTION C (40 marks)

Answer any TWO questions in this section in the spaces provided after question 26.

24. a) Describe the advantages of the battery system of rearing layers. (10mks)
b) Outline the factors to consider when selection livestock for breeding.

25. a) Name the strokes in a four stroke engine and describe how each operates.(12mks)
b) Describe the functions of the gear box in a tractor. (8mks)

26. a) Name and describe the features of an ideal calf pen. (9mks)
b) Discuss pneumonia in calves under the following sub – headings:
i) Predisposing factors (3mks)
ii) Symptoms (5mks)
iii) Control measures (3mks)

K.C.S.E AGRICULTURE PAPER 1 2009

SECTION A (30 MARKS)

Answer ALL the questions in this section in the spaces provided

1. List three methods of treating water for use on the farm (1 ½ mks)

2. Give two example for each of the following categories of water pipes

   (a) Metal pipes (1 mk)

   (b) Hose pipes (1 mk)

3. State four disadvantages of communal land tenure system (2 mks)

4. List four sites on which agro forestry trees can be established on a farm (2 mks)

5. State four financial documents that should be kept on a farm (2 mks)

6. Give two ways in which check dams control soil erosion (1 mk)

7. List two methods of building that are used in propagation of plants (1 mk)

8. Give two reasons for locating a nursery bed at a well sheltered place (1 mk)

9. State four ways in which burning of vegetation may lead to lose of soil fertility (2 mks)

10. Give two forms in which nitrogen is absorbed from the soil by plants (1 mk)

11. Why is it necessary to allow freshly cut sorghum (Columbus grass) to wilt before feeding it to livestock? (1 mk)

12. Give two roles of soil micro- organisms that are beneficial to crops (1 mk)

13. distinguish between the terms hybrid and composite as used in maize breeding

(1 mk)

14. Give three reasons for growing crops under optimum temperature conditions

(1 ½ mks)

15. State two harmful effects of strong wind on crop production (1 mk)

16. Give two ways in which cover crops help to conserve water in the soil

(1 mk)

17. Give a reason for carrying out each of the following management practices on a tree nursery

(a) Pricking out (1 mk)

(b) Root trimming (1 mk)

18. Outline two ways of controlling damping of disease on vegetable seedling in a nursery (1 mk)

19. State four effects of pests with both piercing and sucking mouth parts on crops

(2 mks)

20. Name four natural factors that may influence soil erosion (2 mks)

21. Give two conditions in agricultural production under which opportunity cost is zero (1 mk)

SECTION B (20 MARKS)

Answer ALL the questions in this section in the spaces provided

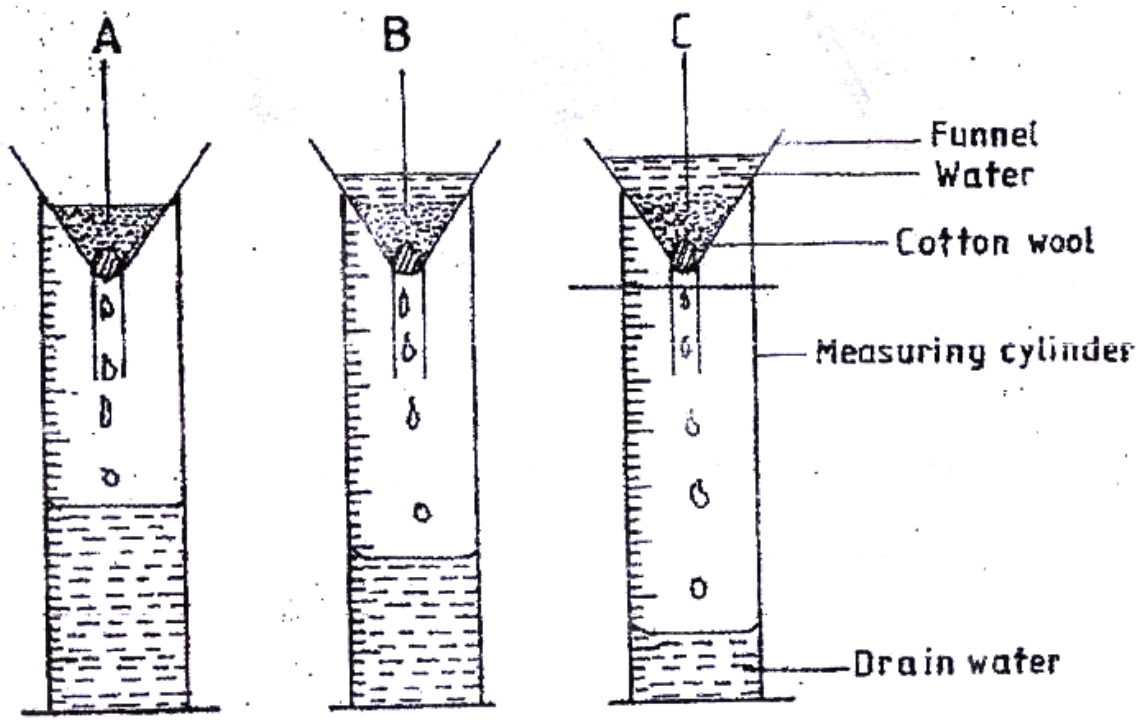
22. The diagram below illustrates a maize cob attacked by a disease. Study it carefully and answer the questions that follow.

(a) Identify the disease (1 mk)

(b) Apart from maize, give two other crops that may be attacked by the disease (1 mk)

(c) State two methods of controlling the diseases (2 mks)

23. The diagram below illustrates an experiment on soil. Study it carefully and answer the questions that follow



(a) State the aim of the experiment (1 mk)

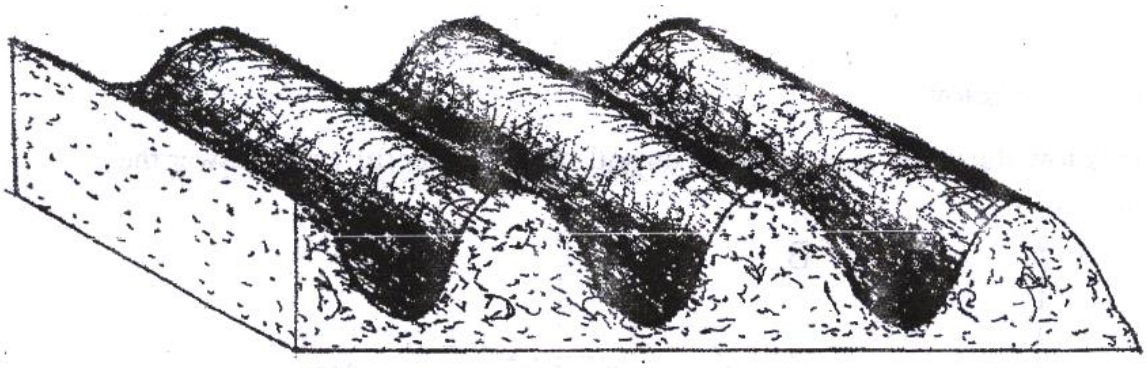
(b) If the volume of water illustrated in the measuring cylinders was observed after one hour, identify the soil samples labeled A and B.

A (½ mk)

B (½ mk)

(c) State two ways in which the soil structure of the soil sample labeled C above can be improved. (2 mks)

24. The diagram below illustrates a final seedbed after tertiary operation done during land preparation. Study it carefully and answer the questions that follow.



(a) Name the tertiary operation carried out on the seedback (½ mk)

(b) Describe how the tertiary operation named in (a) above is carried out

(1 ½ mks)

(c) Give two advantages of planting crops on the final seed back illustrated above

(2 mks)

25. What is the function of each of the following ingredients in the preparation of compost manure?

(a) Wood ash (1 mk)

(b) Top Soil (1 mk)

26. Name the deficient nutrient element in plants showing the following symptoms

(a) Stunted growth, die back of plant tips, leaves roll up and chlorosis along margins of younger leaves (½ mk)

(b) Yellowing of leaves appears first lower leaves turn brown and fall prematurely, stunned growth (½ mk)

(c) Leaf curling, yellowing of leaves, tips and edges of leaves are scorched and have small mottles (½ mk)

(d) Purpling of leaves, stunned growth, slender stalks and lateral buds remain dormant (½ mk)

27. (a) Why is the use of the following items essential during the harvesting of tea?

(i) Plucking stick (1 mk)

(ii) Woven basket (1 mk)

(b) Describe ten safety precautions that should be taken hen using herbicides to control weeds (10 mks)

28. (a) Explain five advantages of mulching in crop production (5 mks)

(b) Outline five activities that may be undertaken in organic farming (5 mks)

(c) Discuss ten benefits a farmer is likely to get using vegetative propagation in production of oranges (10 mks)

29. (a)Explain ten roles of a farm manager in agricultural production (10 mks)

(b) Describe five roles of agricultural based women groups in farming (5 mks)

(c) Describe land preparation and planting in carrot production (5 mks)

Year 2009 Agriculture Paper 2

Section A (30 marks)

Answer all the questions in this section in the spaces provided

1. Study the table below and fill in the missing words (3 mks)

Description	Cattle	Pigs	Poultry
Young from birth/ hatching to weaning	……..	……..	Chick
Young female before first parturition	……..	Gilt	……
Mature male for breeding	Bull	…….	……..

2. Name two viral diseases that affect each of the following livestock:

   (a) Cattle (1 mk)

   (b) Poultry (1 mk)

3. Name one intermediate host for each of the following livestock parasites

   (a) Liver fluke (Fasciola spp) (½ mk)

   (b) Tapeworm (Taenia spp) (½ mk)

4. Give four reasons for breeding a lamb on colostrums (2 mks)

5. State four advantages of artificial calf rearing in dairy cattle management

   (2 mks)

6. State four harmful effects of tsetse flies (Glossina spp) in livestock (2 mks)

7. Why is riddling essential in sheep management (1 mk)

8. Give four reasons for steaming up in dairy cattle management (2 mks)

9. State four limitations of using hydroelectric power on the farm (2 mks)

10. Give two reasons for maintaining a wheelbarrow in good working condition

(1 mk)

11. Differentiate between the following tools

(a) Bastard file and rasp file (1 mk)

(b) Copying saw and hacksaw (1 mk)

12. Name two livestock diseases that are caused by protozoa (1 mk)

13. State four ways of restraining cattle during routine management (2 mks)

14. What is meant by the following terms as used in livestock health:

(a) Incubation period (1 mk)

(b) Mortality rate (1 mk)

15. State two conditions that may inhibit milk let- down during milking

(1 mk)

16. Give four reasons for rearing indigenous cattle in marginal areas of Kenya

(2 mks)

17. Why are the following conditions maintained during artificial incubation of eggs in poultry production?

(a) Proper ventilation (1 mk)

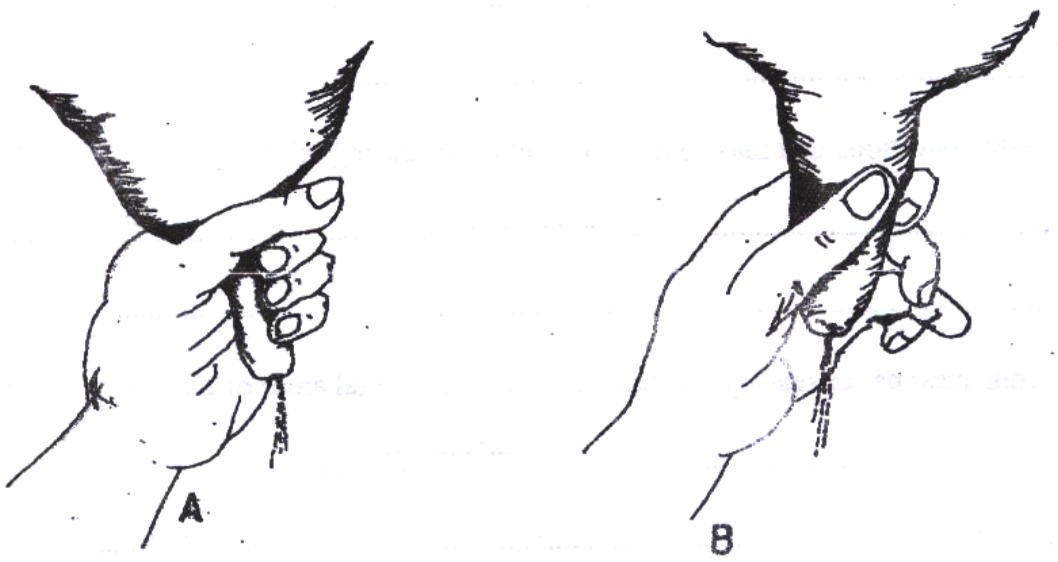
(b) Relative humidity at 60% (1 mk)

SECTION B (20 MKS)

Answer ALL the questions in this section in the spaces provided

18. The diagrams labeled A and B below illustrate two different milking techniques

Study them and answer the questions that follow

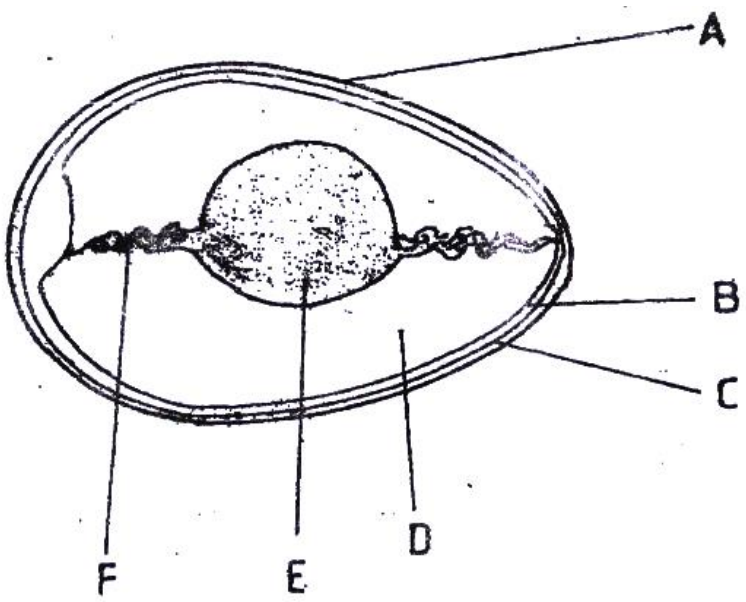


(a) Identify the appropriate techniques for milking (1 mk)

(b) Describe the procedure of milking technique in (a) above (2 mks)

(c) State two disadvantages of using a wrong milking technique (2 mks)

19. The diagram below is an illustration of an egg. Study it carefully and answer the questions that follow.



(a) Name the parts labelled B, C, D and F (½ mk)

B (½ mk)

C (½ mk)

D (½ mk)

F (½ mk)

(b) State two qualities of the part labeled A that should be considered when selecting eggs for incubation (2 mks)

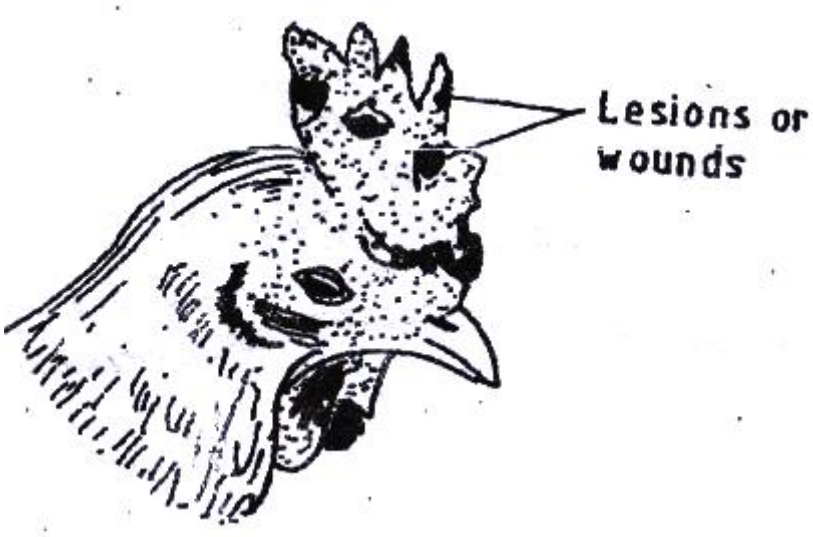
(c) What is the function of the part labelled E in a fertilized egg? (1 mk)

20. The diagram below illustrates a hoof of a sheep. Study it carefully and answer the questions that follow

(a) Name the routine management practice that should be carried out on the hoof illustrated above (1 mk)

(b) State two reasons for carrying out the management practice in (a) above (2 mks)

21. The following diagram illustrates a symptom of a disease in poultry. Study it carefully and answer the questions that follow.



(a) Identify

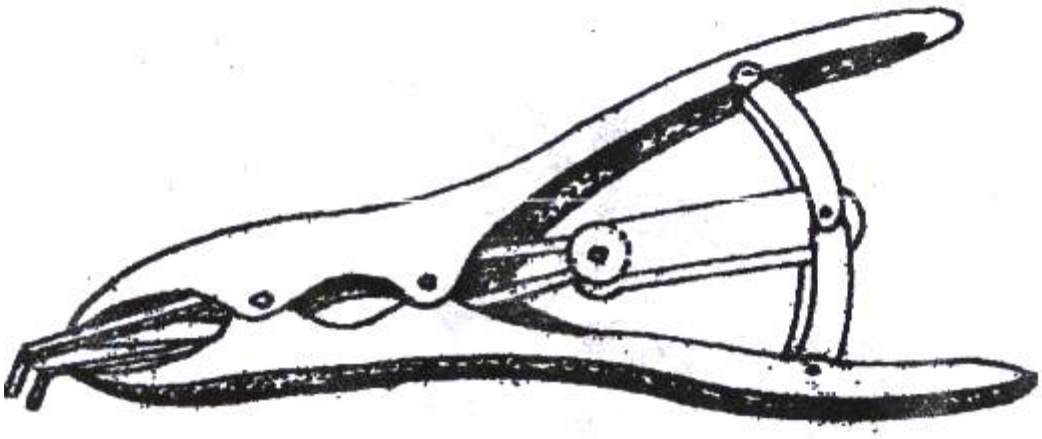
(i) The disease; (½ mks)

(ii) The causal organism (½ mks)

(b) Apart from lesions, state two other symptoms of the disease (2 mks)

(c) State two control measures for the disease (2 mks)

22. Below is an illustration of livestock management equipment. Study the diagram and answer the questions that follow.



(a) Identify the equipment (1 mk)

(b) State the use of the equipment (1 mk)

SECTION C (40 MARKS)

Answer any TWO questions from this section in the spaces provided after questions 25

23. (a) Describe ten signs of ill- health in livestock (10 mks)

(b) Describe the process of digestion in the following sections in the alimentary canal of a non- ruminant animal:

(i) Mouth; (1 mk)

(ii) Stomach (3 mks)

(iii) Small intestines (6 mks)

24. (a) Outline five benefits of using biogas as a source of power on the farm (5 mks)

(b) Give five advantages of using a sub soiler in seedbed preparation (5 mks)

(c) Explain five factors that a farmer should consider when sitting a bee hive to prevent swarming of bees (10 mks)

25. (a) Describe the life cycle of a named tapeworm (Taenia spp) (10 mks)

(b) Describe the process of egg formation in the reproduction system of hen (10 mks)