**EXAMINATIONS COUNCIL OF SWAZILAND**

**JUNIOR CERTIFICATE EXAMINATION**

**Agriculture** **16/02**

Paper 2 **October/November 2011**

 **1 hour 30 Minutes**

**READ THESE INSTRUCTIONS FIRST**

1. Write your **Name**, **Centre Number** and **Candidate Number** on the answer sheets provided.
2. This paper consists of 2 sections. Section I and Section II.
3. Section I consists of 50 multiple choice questions worth 50 marks.
4. Section II consists of 3 essay questions of which you are expected to answer any **two** essays worth 25 marks each.

This question paper consists of **17** printed pages, **1** answer sheet and **3** blank pages.

**SECTION I**

**MULTIPLE CHOICE : 50 MARKS**

**INSTRUCTIONS:**

1. Answer **all** questions in this section.
2. Use a soft pencil ( type **B** or **HB** is recommended )

Four possible answers are given for each question. Choose the best answer by making a cross mark on the correct letter opposite the question number on the answer sheet.

**Example:**

51. Which of the following is unit 4 for Modern Agriculture Book 2?

1. Forestry and fruit crop
2. Nutrition
3. Plant growth and environment
4. Poultry production

If you think **C**  is the right answer, mark with a cross.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **51** | **A** | **B** | **C** | **D** |

Make sure you make the mark next to the correct question number.

1. What is crop rotation?
2. Growing different crops at the same time
3. Growing same crops in one season
4. Growing the same crops yearly
5. Growing different crops in a set order
6. What is the percentage of land used for crop production on Title Deed land in Swaziland?
7. 8
8. 10
9. 44
10. 56
11. What is a diary?
12. a plan for the future
13. a written record
14. costs and returns
15. farm accounts
16. Which of the following sugar cane by-products is used to make alcohol and fuel?
17. Bagasse
18. Molasses
19. Sucrose
20. Sugar leaves
21. Which of the following is used as a method for soil conservation?
22. Burning grass yearly
23. Creating a gully
24. Cultivating steep slopes
25. Terracing
26. Which of the following can be determined by rubbing moist soil between finger and thumb?
27. Soil pH
28. Soil profile
29. Soil structure
30. Soil texture
31. What are the major plant nutrients?
32. Nitrogen, phosphorus, calcium
33. Nitrogen, phosphorus, potassium
34. Nitrogen, phosphorus, sodium
35. Nitrogen, phosphorus, zinc
36. What is weathering? Weathering means:
37. The breaking down of rocks
38. The change of climate
39. The change of temperature
40. The freezing of rock
41. Which of the following is a spinach variety?
42. California wonder
43. Cape spitz
44. Ford hook giant
45. Heinz
46. Which of the following is seriously required by maize during tasseling and silking?
47. Fertiliser
48. Rainfall
49. Warm temperature
50. Weeding

1. The graph below shows how crops respond to fertilisers.

Handling

information

Y

X

Amount of fertiliser

 To get the best use from fertilisers, up to what point should a farmer apply fertiliser?

1. Beyond point **Y**
2. Between **X** and **Y**
3. At point **X**
4. At point **Y**
5. Why is it important to ridge a potato crop? To …..
6. cover the developing tubers to be able to take up more nutrients from the soil
7. increase the amount of moisture for the developing tubers
8. increase the size of the developing tubers and then increase yield
9. prevent the developing tubers from turning green
10. What is the function of a phloem in a tree? It ……
11. carries food from the leaves to where it is needed in the plant
12. carries water and nutrients from the roots to the crown
13. gives strength to the tree
14. is responsible for the growth and structure of the trunk
15. What is the loss of natural forest?
16. aforestation
17. deforestation
18. forestation
19. reforestation
20. The upper part of the grafted plant is known as:
21. bark
22. bud
23. root stock
24. scion
25. What are the dimensions of a planting hole in fruit trees?
26. 30cm square and 50cm deep
27. 50cm square and 50cm deep
28. 60cm square and 60cm deep
29. 100cm square and 100cm deep
30. Orange dog is a serious pest for which fruit crop?
31. avocado
32. banana
33. naartjie
34. pineapple
35. Why are rat baffles provided in a maize crib?
36. Allow air circulation
37. For rain proof
38. Prevent insect into storage
39. Prevent rats jumping into maize crib
40. Which of the following is a modern method of crop storage?
41. Clay pots
42. Grass baskets
43. Hessian sacks
44. Mud tanks
45. Which of the following is the greatest enemy of the forest?
46. Diseases
47. Fire
48. Pests
49. Weeds
50. What is the main function of a gizzard in the digestive system of a chicken?
51. To absorb water
52. To absorb digested food
53. To grind the food into a paste
54. To mix digestive juice and food
55. Blisters and warts around the eyes, combs, and wattles are a sign of which poultry

disease?

1. Coryza
2. Fowl pox
3. Merek’s
4. Newcastle
5. What is the purpose of a footbath?
6. To soak soles of shoes to clean
7. To prevent the spread of diseases within the poultry house
8. To prevent visitors from entering the poultry house
9. To prevent diseases from being brought into the house from outside
10. Which nutrient provides energy?
11. Carbohydrates
12. Minerals
13. Fibre
14. Vitamins
15. What is the importance of immunization?
16. Prevent diarrhoea
17. Improving the defence system
18. Preventing dehydration
19. Preventing kwashiorkor
20. What is malnutrition?
21. not eating food high in fibre
22. not eating well enough for the body
23. not having enough money
24. not having enough water in the body
25. What causes both anemia and fatigue. Lack of …….
26. Calcium
27. Iodine
28. Iron
29. Thiamin
30. What is a greenhouse effect?
31. A clear plastic house that is used to grow seedlings
32. A clear plastic house that is used to grow plants in cold climate
33. The gradual warming of the earth’s atmosphere
34. The release of gases into the air when fuels
35. Which of the following does **not** affect the rate of photosynthesis?
36. Atmospheric pressure
37. Carbon dioxide
38. Humidity
39. Soil condition
40. What name is given to the female part of a flower?
41. Calyx
42. Carpel
43. Ovary
44. Stamen
45. Which of the following is an abiotic factor?
46. Animals
47. Human
48. Plant
49. Soil
50. This rabbit is fawn to red in colour, grows rapidly and weighs between 3.5kg and 4.5kg. What is the breed?
51. Californian
52. Chinchilla giant
53. Flemish giant
54. New zealand red
55. Why do rabbits eat their night faeces?
56. Because they are hungry
57. Because they are palatable
58. To while away time during the night
59. To absorb soluble nutrients of the body
60. What is dressing a rabbit?
61. Cutting the skin along the dotted line
62. The pulling of the skin from the body
63. The removal of the skin and contents of abdominal cavity
64. The removal of the blood from the rabbit
65. What does low feed conversion ratio mean?
66. Food is too little for the rabbit
67. Food is being used economical
68. Food is not available at all
69. Food is wasted
70. What is a burdizzo used for?
71. Castration
72. De-horning
73. Disbudding
74. Hoof-trimming
75. Kidding in goats is expected after how many days?
76. 31 days
77. 90 days
78. 120 days
79. 150 days
80. Why are goats classified as ruminant?
81. They are browsing animal
82. They have caecum adapted to digest cellulose
83. Their rumen is adapted to digest cellulose
84. They are strong animals kept for meat and wool
85. Which one is an advantage of Nguni cattle?
86. Large and carry a lot of good quality meat
87. Less suited to our environment
88. More resistant to tck-borne diseases
89. Ready to slaughter at an early age
90. What is breeding in cattle?
91. Mating animals of different herds
92. Mating animals of the same family
93. Mating different breeds
94. Mating between breeds of same colour mating animals of same breed
95. Which **one** is an example of schedule disease?
96. Foot and mouth
97. Heart water
98. Mastitis
99. Red water
100. Which of the following is a milk breed?
101. Afrikander
102. Friesian
103. Nguni
104. Simmental
105. What is stocking rate?
106. Number of young that are weaned
107. Number of young cattle in Swaziland
108. Number of hectares of land per livestock unit
109. Number of cattle that can graze a piece of land
110. What is the name of plant material preserved in its green condition for feeding animals in the dry season?
111. Forage
112. Hay
113. Haystack
114. Silage
115. Which **one** of the following is a fixed cost?
116. Chemical
117. Permanent labour
118. Feed
119. Fertilizer
120. Farmer Mkhwanazi grew 0.5 hectares of cotton and got a profit of E190.

What was his profit per hectare?

1. E95.00
2. E190.00
3. E380.00
4. E950.00
5. Why do banks require a collateral before a loan is given to a farmer?
6. Some farmers are not reliable
7. Some farmers cannot produce a plan
8. Lender is protected from losing money
9. Lenders want to make sure that farmers make profit
10. Which of the following is a parastatal organisation?
11. Commercial Bank
12. Swazi Bank
13. World Food Programme
14. World Vision
15. Why are Agricultural Research Stations important for agricultural development?
16. To distribute food
17. To improve production while reducing costs
18. To open job opportunites
19. To provide market for fresh produce
20. Which youth club encourages young people to come together for farming purposes in Swaziland?
21. 4B
22. 4H
23. 4S
24. 4Y

**SECTION II**

**ESSAY QUESTIONS = 50 Marks**

1. Answer on the lined paper provided.

2. Answer any **two** questions.

3. You may use drawings to help you answer the questions.

4. Each question is worth 25 marks.

5. Begin each question on a new page.

1. You have been requested to advice farmers in your area on maize production. Using the skills you learnt at school, describe how you can advise the farmers on proper maize production. Use the following points to guide you.

* Preparing the soil [3]
* Time of planting and method of planting you could recommend. [3]
* Spacing and depth of the maize. [3]
* A pest that affect maize during germination , its descsription, damage and

 how to control it. [5]

* How they should apply fertilizer and when. [3]
* Why they should remove weeds and how the weeds should be removed. [2]
* State any three signs of maturity as green mealies. [3]

Presentation (Topic, Introduction and Flow) [3]

2. Your neighbour needs your help on proper information and guidance to start raising broiler from day-old to selling.

 Using the following points write a full account on how you will help them.

* Preparation to be done before the arrival of the chicks. [7]
* Management of chicks during brooding stage. [7]
* Litter management. [5]
* Important vaccination and when they are administered. [3]

Presentation (Topic, Introduction and Flow) [3]

3. Rabbitry production can be profitable if well looked after

Write an essay explaining how you would manage your rabbits. Use the following points:

- Recording - State **one** reason for keeping records. [1]

* Give **two** types of records to keep. [2]

- Housing - State **three** factors that the rabbit housing must

provide. [3]

* Explain why thin wire is **not** good for rabbit cages. [1]

- Why a wooden board is placed in each cage? [1]

 - Feeding - Why would rabbit fed commercial feed perfom

 better than those fed greens? [1]

* What are the **three** things that would make a good

combine diet for rabbits? [3]

 - Breeding - How often, on average should a school mate the

rabbit each year? [1]

 - How mating is arranged? [1]

 - How can you confirm that the doe is pregnant?

Give any **two** ways of confirming pregnancy. [2]

 - Kindlin g - When to place the nest box in the cage? [1]

 - When is kindling expected? [1]

 - Give **one** sign of kindling. [1]

 - Weaning - When is weaning done? [1]

 - Marketing - Why is market research important in rabbit

production? Give any **two** reasons. [2]

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