**EXAMINATIONS COUNCIL OF SWAZILAND**

**JUNIOR CERTIFICATE EXAMINATION**

**Agriculture** **516/02**

Paper 2 **October/November 2014**

 **1 hour 30 minutes**

**READ THESE INSTRUCTIONS FIRST**

1. Write your **Centre Number**, **Candidate Number** and **Name**, 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. This should be answered on the answer grid attached.
4. **Section II** consists of 3 essay questions of which you are expected to answer any **two** essays worth 25 marks each. This should be answered on the lined paper provided.

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 5 for Modern Agriculture Book-2?

1. Crop production
2. Forestry and fruit crop
3. Plant growth and environment
4. Vegetable 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. Which of the following cotton by-product is used to make animal feed?

 A. Cake

 B. Leaves

 C. Lint

 D. Oil

2. Most Swazi Nation Land is used for….

 A. crop production

 B. forestry production

 C. grazing production

 D. vegetable production

3. Which of the following crop is referred to as “Swazi Gold’’?

 A. Citrus

 B. Cotton

 C. Pineapple

 D. Sugar-cane

4. Which of the following is used for digging, weeding and ridging?

 A. Fork

 B. Hoe

 C. Spade

 D. Trowel

5. The three micro-nutrients that are sometimes missing or in short supply in Swaziland’s soils are ….

 A. Boron, potassium and zinc

 B. Boron, molybdenum and zinc

 C. Boron, magnesium and zinc

 D. Boron, sulphur and zinc

6. What is the depth of a fine tilth in vegetable production?

 A. 3-5 cm

 B. 6-10 cm

 C. 12-15 cm

 D. 15-30 cm

7. What causes tools to rust very quickly?

 A. Keeping them in grease and oil

 B. Leaving them in the sun and rain

 C. Washing the tool in water tanks

 D. Washing and wrongly painting the tools

8. When compost is ready for use, it must have these characteristics.

 A. Dark brown, crumbly and has no particular smell

 B. Dark brown, crumbly and smells bad

 C. Dark brown, crumbly and smells sweet

 D. Dark brown, crumbly and strong fertiliser smell

9. Which of the following is used for weeding in commercial farms?

 A. Acaracides

 B. Fungicides

 C. Herbicides

 D. Pesticides

10. Acid soil affect plant by ….

 A. making plants acidic

 B. leaching nutrient from the soil

 C. increasing aluminium toxicity required by plant

 D. increasing nutrient uptake by plant

11. Which **one** of the following describes soil with a good mix of sand, silt and clay?

 A. Clay soil

 B. Loam soil

 C. Sand soil

 D. Silt soil

12. Organic fertiliser refers to ….

 A. a mixture that contain major nutrient

 B. anything which is living or has once lived

 C. fertilizer such as 2.3.2(22) + zinc

 D. fertilizer such as urea and sulphate of potash

13. Which of the following is an advantage of including legume in crop rotation?

 A. Controls soil erosion

 B. Fixes nitrogen in the soil

 C. Fixes zinc and aluminium

 D. Retain more water for a long time

14. Which of the following is seriously required by maize during tasseling and silking?

 A. Fertilizer

 B. Rainfall

 C. Warm temperature

 D. Weeding

15. One reason for intercropping is to ….

 A. provide farmers with a chance to plant different crops

 B. provide farmers with insurance, if one crop fails

 C. provide farmers with correct spacing specified for the crop

 D. provide farmers with correct spacing and ground cover

16. Which of the following insect damages both maize and beans in the storage?

 A. Bean beetle

 B. Grain beetle

 C. Grain weevil

 D. Red flour beetle

17. How can you tell if beans are ready for harvesting?

 A. Pods split open

 B. Pods turn brown

 C. Stem turn brown

 D. Whole plant turn brown

18. Why should you store only dry crops?

 A. Dry crops do not have poisons

 B. Dry crops are poisonous to insect

 C. Prevent moulds attacking the produce

 D. Prevent rats attacking the produce

19. Why should the supporting poles of a maize crib have rat baffles?

 A. For air circulation

 B. For rain proof

 C. Prevent insect entry to storage

 D. Prevent rats jumping to storage

20. The correct life cycle of a chicken would be ….

 A. fertilization, brooding, incubation, growing period and adult period

 B. fertilization, egg laid, brooding, incubation, growing period and adult period

 C. fertilization, egg laid, incubation, brooding, growing period and adult period

 D. fertilization, incubation, egg laid, brooding, growing period and adult

period

21. The term used to remove an unproductive hen from a flock is ....

 A. Candling

 B. Cannibalism

 C. Culling

 D. Moulting

22. How would you recognise a broody hen? It ....

 A. has a large moist vent

 B. loses some of its feathers

 C. sits on the eggs trying to hatch them

 D. eats some of its eggs

23. If your school has 40 birds and they produce 360 eggs in 10 days, what is the

laying percentage over the ten days?

1. 75
2. 80
3. 85
4. 90

24. What name is given to the planting material for pineapples?

 A. Seeds

 B. Setts

 C. Sucker

 D. Vines

25. Which of the following fruit is a good source of protein and vitamins?

 A. Granadillas

 B. Guavas

 C. Mangoes

 D. Pawpaws

26. Which part of a tree stem is the newer wood nearest to the cambium and carries up water and nutrients from roots to crown?

 A. Cambium

 B. Heartwood

 C. Inner bark

 D. Sapwood

27. Which of the following is an important requirement for clotting of blood?

 A. Vitamin A

 B. Vitamin C

 C. Vitamin E

 D. Vitamin K

28. A deficiency of this nutrient causes pellagra in adults.

 A. Calcium

 B. Iodine

 C. Iron

 D. Niacin

29. What cells of the body does HIV destroy?

 A. Parent cells

 B. Red blood cells

 C. Sex cells

 D. White blood cells

30. Which of the following is a parasitic weed of maize and sorghum?

 A. Black jack

 B. Pig weed

 C. Wandering Jew

 D. Witch weed

31. The movement of plant roots towards water is known as ....

 A. Chemotropism

 B. Geotropism

 C. Hydrotropism

 D. Phototropism

32. Which of the following is a process through which plant loses water through the stomata?

 A. Absorption

 B. Photosynthesis

 C. Respiration

 D. Transpiration

33. Which of the following is a biotic factor?

 A. Light

 B. Plant

 C. Soil

 D. Temperature

34. Where is food supply stored in the maize seed?

 A. Cotyledon

 B. Endosperm

 C. Micropyle

 D. Seed coat

35. What term describes the fertilized ovule?

 A. Ovary

 B. Seed

 C. Sepal

 D. Style

36. How much rabbit pellets per day should be given to an unproductive doe?

 A. 100 g

 B. 120 g

 C. 140 g

 D. 225 g

37. Which of the following goat breed is kept for its wool?

 A. Angora

 B. Boer

 C. Saanen

 D. Toggenburg

38 Between 26 and 30 months, the lateral have developed and the goat is now ....

 A. two – tooth

 B. four – tooth

 C. six – tooth

 D. full – mouth

39. Which of the following is a rabbit disease characterised by swollen and sore breast?

 A. Cold

 B. Mange

 C. Mastitis

 D. Pasteurellosis

40. What offspring would you get if a pure Brahman bull is mated with a ¾ Brahman and ¼ Nguni cow?

 A. ½ Brahman and ¼ Nguni

 B. ¾ Brahman and ½ Nguni

 C.  Brahman and  Nguni

 D. ¼ Brahman and ¼ Nguni

41. Why are stocking rates higher in the Highveld?

 A. Grass cover is more dense

 B. Number of cattle is low

 C. Plenty of leaves for cattle feed on

 D. Farmers provide animal mineral licks

42. What do we call the method of making cows pregnant by using semen that has been collected.

 A. Artificial insemination

 B. Natural insemination

 C. Sexing cows

 D. Semen pregnancy

43. Why would you prefer hay over foggage as feed for your cattle?

 A. Cattle prefer hay than foggage

 B. Cattle have difficult in grazing foggage

 C. Foggage is more difficult to prepare than hay

 D. Hay is more nutritious than foggage

44. What are two common methods of planting grass seeds?

 A. Crop rotation and monoculture

 B. Interval and intercropping

 C. Overseeding and sodseeding

 D. Vegetative and furrow

45. What is the practice of keeping cattle in grazing area for a short time or seven days and move them to another grazing area fenced?

 A. Extensive grazing

 B. Free-range grazing

 C. Rotational grazing

 D. Zero grazing

46. What would be the depreciation value of a tractor worth E250 000-00 if it has useful life of 10 years?

 A. E250-00

 B. E2500-00

 C. E17500-00

 D. E25000-00

47. Which of the following determines the price of a farm produce?

 A. Marketing and packaging

 B. Planning and valuation

 C. Processing and advertisement

 D. Supply and demand

48. Why is it important to draw up a budget for an enterprise?

 A. To show whether you can expect a profit from the enterprise

 B. Because a business without a budget lead to making a loss

 C. Help farmers to calculate their loss or profit at the end of the season

 D. Helpful to completing the account sheet in financial records

49. What is the main function of Namboard?

 A. To help in the development of the rural economy

 B. To provide credit for agricultural development

 C. To provide financial and material resource for individual and communities

 D. To provide a market for fresh farm produce and control of imports

50. What is the present Government activity to ensure water is available for farming

activities in Swaziland?

1. Constructing dams
2. Constructing factory shells
3. Constructing of international air port
4. Providing equipment to improve country’s roads

**SECTION II**

**ESSAY QUESTIONS = 50 Marks**

**INSTRUCTIONS**

1. Answer on the lined paper provided.

2. Answer any **two** questions.

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

4. Each question is worth 25 marks.

5. Begin each question on a new page.

1. The growth of vegetables depends on many factors. Using your knowledge and skills you gained at school, write an essay to help your friend who wants to start a vegetable project at home. Use the following points:

* Choosing a good site for vegetable production. [6]
* Steps to follow when transplanting. [8]
* Replacing the transplants. [2]
* General management of seedling in the plot or garden. [6]

Presentation (Topic, Introduction and flow) [3]

2. Your school kept layers for egg production. Using the guide below, write an essay on how you managed the hens.

* Purchasing of new birds. [1]
* Preparations you did before arrival of new stock. [8]
* Feeding method . [2]
* Age at which they start laying. [1]
* Signs of a good layer. [4]
* Collecting eggs and grading the eggs. [3]
* Handling fresh eggs. [3]

Presentation (Topic, Introduction and flow) [3]

3. You are to advice a farmer producing rabbits to sell his/her produce to Pick and Pay and Matata Spar. One of his/her problems is lack of marketing skill and operation involved in the selling of products that meet consumer’s requirement. Using your knowledge in Farm Business, describe how you would advise him/her on the following market operations.

* Marketing [3]
* Marketing research [3]
* Grading [2]
* Processing [2]
* Storage [2]
* Pricing [3]
* Advertising [3]
* Selling [3]
* Other people to whom he/she sell the rabbit (mention five) [2]

Presentation (Topic, Introduction, and flow) [3]