Names:……..**Index:**……..

School Exam Number:……**Signature**:..……..

P515/1
AGRICULTURE
PRINCIPLES AND PRACTICES
Paper 1
6 August 2018
2 ½ hours

*Candidates should **NOT** write their Centre Name or Centre Number anywhere on this booklet*

ENTEBBE JOINT EXAMINATION BUREAU

Uganda Advanced Certificate of Education

PRINCIPLES AND PRACTICES OF AGRICULTURE

Paper 1

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2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES:

Attempt **all** *questions.*

Answers to Section **A** *must be written in the boxes provided.*

Answers to Section **B** *must be written in the spaces provided.*

FOR EXAMINERS' USE ONLY		
SECTION	**MARKS**	**EXAMINERS' NO, SIGN**
A		
B. 31		
32		
33		
34		
35		
36		
37		
TOTAL		

SECTION A (30 Marks)

Write the letter corresponding to the correct answer in the box provided

1. Meat supply of 50,000 kg was reduced to 45,000 kgs when the price dropped from 10,000/= per kg to 8,000/= per kg. Calculate the elasticity of supply for meat during that period.

A. 0.4
B. 0.5
C. 2.5
D. 1.5

2. Which one of the following is the most cost-effective method of irrigating land of a high gradient?

A. Furrow irrigation
B. Trickle irrigation
C. Sprinkler irrigation
D. Flood irrigation

3. Which one of the following factors has the greatest limiting influence on the terrestrial environment of a tropical forest?

A. Light
B. Minerals
C. Carbon dioxide
D. Oxygen

4. The porosity of sandy soils can be reduced by deflocculating particles; this can be achieved by;

A. Agricultural Liming
B. Addition of manures
C. Addition of DAP
D. Addition of CAN

5. Which of the following is a control measure for Nagana in cattle?

A. Dipping
B. Bush spraying bush with pesticide
C. Isolation of sick animals
D. Vaccination

6. A machine with an efficiency of 75% is used to lift a load of 600N by applying an effort of 40N. Calculate its V.R

A. 60
B. 15
C. 30
D. 20

7. Which one of the following current assets on a farm business can be termed as liquid?

A. Buildings
B. Land
C. Maize in store
D. Tractor

8. The farming system characterized by growing of one crop following another is

A. Relay cropping
B. Mono cropping
C. Crop rotation
D. Mixed cropping

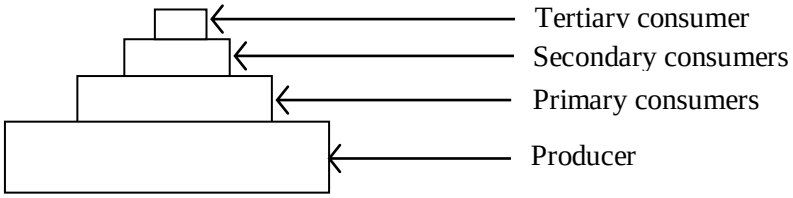
9. Which of the following amendments would cause deflocculating in soils?

A. Lime
B. Manure
C. CAN
D. UREA

10. In the process of digestion in a ruminant water is separated from food particles in the;

A. Abomasum
B. Reticulum
C. Omasum
D. Rumen

11. *Fig.1* shows a pyramid of numbers for a food chain.



The most likely mode of nutritional relationship between producers and primary consumers is;

A. Mutualistic
B. Symbiotic
C. Parasitic
D. Autotrophic

12. The rate of seed application of a planter can be increased by;

A. Adding more seeds in the hopper.
B. Reducing the speed of operation
C. Increasing the size of the seed cells
D. Increasing its speed of operation

13. In which of the following circumstances may a sub-soiler be necessary?

A. Mixing the soil
B. Encouraging drainage
C. Controlling soil erosion
D. Expelling soil pests

14. Which of these workshop tools is necessary while making joinery work on furniture?

A. Chisel
B. Tenon Saw
C. Marking Gauge
D. Tape measure

15. In the life cycle of the blue tick the larva is found on;

A. 2^{nd} host
B. 1^{st} host
C. 3^{RD} host
D. 2^{nd} and 3^{rd} host.

16. The demand for agricultural land is usually described as derived because

A. Its demand does not change.
B. Its highly demanded.
C. Its demand depends on the use it can be put to.
D. Its demand changes correspondingly to prices.

17. A poultry house with a rise of 5ft and an inclination angle of 28° will have an effective length of iron sheet coverage of;

A. 8.6ft
B. 1.2ft
C. 6.5ft
D. 10.6ft

18. Death of growing points in a crop is usually deficiency symptoms of;

A. Potassium
B. Nitrogen
C. Phosphorus
D. Magnesium

19. Which one of the following activities illustrates the 2^{nd} stage in the production function?

A. Overstocking in a Paddock
B. Insufficient use of Fertilizers.
C. Decreasing milk yield with increasing total milk yield
D. Purchase of a Tractor for Small Area of Land.

20. A soil sample was analyzed and the particles were found to have a diameter between 2.0mm – 2.5mm. The texture of the soil said to be;

A. Very fine sand
B. Very coarse sand
C. Coarse sand
D. Fine sand

21. In chemical weathering, one of the following products will lead to the expansion of rocks, leading o their breakage;

A. Hydrolysis
B. Carbonation
C. Oxidation
D. Hydration

22. A condition in cattle where the effect of a gene does not fully express its self is said to be;

A. Polygenous.
B. Co-dominant
C. Sex linked
D. Recessive

23. Which one of the following influences the effectiveness of a non – selective contact herbicide?

A. Degree of Cutting of Leaves
B. Type of Weed Being Controlled
C. Stage of Growth of the Weed
D. Time of Application

24. Cattle lacking enough magnesium in their diet are likely to develop signs of

A. Milk Fever
B. Night Blindness
C. Grass Tetany
D. Pica

25. The measure of monetary output per unit of input on the farm can be best described as;

A. Profitability
B. Rate of money turn over
C. Economical efficiency
D. Technical efficiency

26. Growing hairy cotton varieties is likely to retard attack by

A. Cotton Stainer
B. Jassids
C. Spiny Ball Worm
D. American Boll Worm

27. The main function of amniotic fluid to a foetus is

A. Help removal of waste products
B. Help in gaseous exchange
C. Protect the foetus
D. Convey nutrients to the foetus

28. Which of the following will increase efficiency of feed utilization in livestock?

A. Feeding Animals Regularly
B. Giving Animals Appropriate Feeds
C. Giving Animals Supplementary Feeds
D. Giving Animals Extra Feeds

29. In order to increase nodulation in a legume pasture the farmer should

A. Add Rooting Hormones.
B. Add Organic Matter
C. Carry out Inoculation
D. Apply Nitrogen Fertilizers

30. Which pair of food stuff provides energy during starvation?

A. Carbohydrates and Protein
B. Carbohydrates and Lipids
C. Lipid and Proteins
D. Carbohydrates and Vitamins

SECTION B (70 marks)

31. (a) Explain **five** advantages of using organic inputs in farming.

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(b) Describe **three** farming practices that demonstrate agriculture sustainability.

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32. (a) Explain the reasons for servicing farm machinery before doing farm work.

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(b) Identify the causes of power loss in farm machinery

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33. (a) Suggest what farmers can do to reduce swarming in bees.

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(b) What procedure should farmers follow in order to harvest clean honey on the farm?

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34. (a) Effects of low gender responsiveness to the agricultural sector.

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(b) What factors are responsible for the low gender responsiveness in the agricultural sector?

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35. (a) The objectives of agricultural policy

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(b) Outline the role of the ministry of agriculture animal industries and fisheries, (MAAIF) in the implementation of agriculture policies.

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36. The table below shows the effects of plant density on yields of grain for two maize varieties planted at the same time and on the same soil conditions. Study it and answer the questions that follow.

Plant density *(plants ha^{-1})*	Yield *(kg ha^{-1})*	
	Variety A	**Variety B**
3,000	2500	2200
4,500	3000	4000
6,000	4500	3500
8,000	3800	3000
TOTAL	**13,800**	**12,700**

(a) Explain the variation in yield of the maize varieties above with planting density. *(03 marks)*

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(b) Apart from yield, explain **two** other agronomic attributes of maize that can be affected by planting density. *(02 marks)*

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(d) Basing on the data above, which variety would you recommend to a farmer with limited land? *(02 marks)*

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(e) Explain how genetic factors could have influenced the difference in the performance of the two varieties. *(03 marks)*

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37. The data below was collected from a fisheries research institute to investigate the rate of growth of five fish spp. The study was carried out in 2 years but the information given is for one year.

N.B: *An annual rate of population growth of 1.0 signifies no net change in population.*

Species	No. of fish per unit area	Monthly growth rate	Year 2
A	10	0.5	
B	15	0.75	
C	20	1.0	
D	25	4.3	
E	30	5.0	

(a) For each fish spp, calculate the number of fish per unit area expected at the end of 6 months in Year 2. Fill your answers in the Year 2 column in the table above after the calculations in the spaces below.
($2^1/_2$ marks)

(b) For the fish spp with the highest population harvested in year 2, how many fish could be harvested in year 2 in order to maintain the same monthly rate of population growth in year 3? Explain your answer.
($2^1/_2$ marks)

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(c) Explain reasons why there are variations in the growth rate of the different fish spp. *(02 marks)*

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(d) What recommendations could you give to maintain the required balance in the population spp of the fish in the study? *(03 marks)*

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END