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P515/1
PRINCIPLES
AND PRACTICES
OF AGRICULTURE
PAPER 1

MERRYLAND HIGH SCHOOLS ENTEBBE

PRINCIPLES AND PRACTICES OF AGRICULTURE

PAPER 1

INSTRUCTIONS TO CANDIDATES:

- This paper consist of sections A and B
- Answer all questions in both sections.
- All answers should be written on this question paper.

FOR EXAMINER'S USE ONLY		
Question	Marks	Examiner's No./Initials
Section A		
31		
32		
33		
34		
35		
36		
37		
TOTAL		

Turn Over

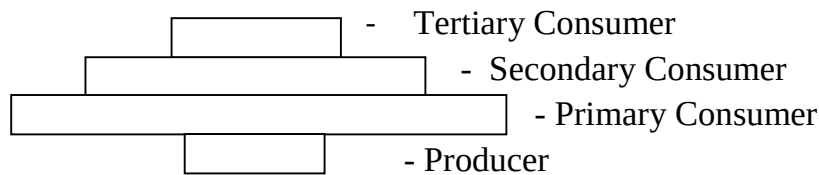
SECTION A (30 MARKS)

Write the letter corresponding to the most correct answer in the box on the right hand side for each question.

1. Which of the following factors may not affect the bulky density of soil?
A. Soil minerals
B. Depth of soil
C. Presence of organic matter
D. Number of cultivations
2. The following bacteria may be of importance in maintaining soil nitrogen balance except.
A. Thio bacillus
B. Azotobacter
C. Nitrobacter
D. Nitrosomona's
3. The occurrence of a genetic defect among individuals of an isolated population in a percentage higher than expected is likely to be a result of
A. natural selection
B. speciation
C. adaptation
D. genetic drift
4. A traditional farming system that involves alternating crops with pasture's on the same piece of land is
A. crop rotation
B. strip cropping
C. arable farming
D. ley farming
5. While many fresh water animals posses vacuoles which contract to expel excess water, plants living in fresh water do not have such vacuole's because,
A. plant cell wall are impermeable to water.
B. plant cell sap is of much lower concentration than animal's protoplasm.
C. water movements into plants is controlled by their roots.
D. the water potential inside and outside such plant cells is the same.
6. Ripening of unripe fruits is facilitated when they are enclosed with ripe one's because.
A. IAA is produced by the ripe fruits to initiate ripening of others.
B. ripe fruits produce ethane which facilitates ripening of others.
C. ripe fruits increases the temperature which encourages ripening.
D. The unripe fruits absorb moisture from ripe fruits which separately speed up ripening.

7. Which of the following properties of organic matter contributes highly to moderation of soil temperature?
- A. Low bulky density.
 - B. Dark coloured.
 - C. High cationic exchange capacity.
 - D. Zwitterions effects.

8.



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

- A. mutualistic.
 - B. symbiotic.
 - C. parasitic.
 - D. autotrophic.
9. The use of lime water in determining presence of living organism in soil is to
- A. increase speed of reaction.
 - B. indicates presence of carbon dioxide.
 - C. increase permeability of Muslin bag.
 - D. keep organisms alive.
10. Which of the following is true about the environment of Agro-forestry floor under a thick canopy?
- A. Wide temperature fluctuation.
 - C. Thick layer of organic matter.
 - D. Dense plant growth.
 - E. Has heavy soil erosion.
11. A recessive allele is that which can express itself only in
- A. dominant stage.
 - B. hetrozygous stage.
 - C. homozygous state.
 - D. F1 generation.
12. Which of the following features in a bony fish makes it more efficient in swimming than cartilaginous fish?
- A. Strong bony skeleton.
 - B. Highly coordinated neuromuscular activity.
 - C. Swim bladder.
 - D. Stream lined body.

Turn Over

13. The following are chemical forms of lime except
A. oxide
B. hydroxide
C. carbonate
D. sulphate ☐
14. Premature births in cattle are sometimes caused due to insufficient amount of;
A. oxytocin.
B. oestrogen.
C. prolactic.
D. progesterone. ☐
15. In which one of the following parts does fertilization take place in a bird?
A. Fallopian tube.
B. Infundibulum.
C. Shell gland.
D. Isthmus. ☐
16. Which of the following factors may not influence the level of supply of agricultural products?
A. Level of technology.
B. Level of demand.
C. Government policy.
D. Quality of the product. ☐
17. The following are functions of marketing boards except;
A. giving devidents.
B. offering farm credit.
C. bulb storage.
D. transporting of goods. ☐
18. Side thrust in an ox-plough can be overcome by the;
A. share.
B. landslide.
C. yoke.
D. furrow wheel. ☐
19. Over inflated tractor tyres,
A. reduce both wheel slippage and traction.
B. increase both wheel slippage and traction.
C. reduce traction and increase slippage.
D. reduce slippage and increase traction. ☐

20. Which of the following chemicals does not supply nitrogen?
A. Urea
B. Ammonium nitrate
C. Muriate of potash
D. Sulphate of ammonia
21. A wheel borrow belongs to;
A. first class lever.
B. third class lever.
C. second class lever.
D. wheel and axle.
22. When a small change in price of commodity cause a big change in the demand of the commodity, then the demand is said to be
A. inelastic.
B. elastic.
C. perfectly inelastic.
D. unitary.
23. The monetary value attached to the farmers own labour and management is
A. an explicit cost.
B. an Implicit cost.
C. a variable cost.
D. a marginal cost.
24. One of the following is an advantage of diversifying farm production.
A. Reduction in pests and disease attacks.
B. Easy marketing of farm products.
C. More efficient use of farm resources.
D. Increase of yields.
25. An animal feed is described as basal if it has a high,
A. protein content.
B. fat content.
C. fibre content.
D. energy content.
26. Calcium demand in cattle is lowest during
A. fattening.
B. early growth.
C. gestation.
D. lactation.

27. The S.I Unit of power produced by a machine is?
 A. Newton per second
 B. Joule per second
 C. Joule per metre
 D. Newton per square metre
28. A soil sample was weighed and was 80g. When it was dried in an oven its mass became 60g. What is the percentage composition of water in the soil?
 A. 20%
 B. 25%
 C. 30%
 D. 50%
29. Which of the following are products of microbial fermentation in the rumen?
 A. Glucose.
 B. Peptones and Peptides.
 C. Fatty acids and glycerol.
 D. Volatile fatty acids and ammonia.
30. One of the following methods of identification would be ideal for a beef herd.
 A. Ear notching
 B. Ear tattooing
 C. Ear tagging
 D. Branding

SECTION B (70 MARKS)

Write your answers in the spaces provided.

31. A soil sample which weighed 300gm, with a volume of 250cm^3 was collected from the school garden for laboratory analysis. Water was added to the soil of about 250cm^3 and the total volume of the mixture was 450cm^3 .
- a) Work out the Bulk density of the soil sample. (2 marks)
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- b) Calculate the particle density of the soil sample. (2 marks)
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- c) Explain factors that influence the bulk density of soils in any locality. (6 marks)

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32. a) What do you understand by the term **pest resurgence**. (2 marks)

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- b) State any **four** factors that may result into pest resurgence. (4 marks)

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- c) Give **four** limitations of using pesticides in pest management. (4 marks)

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33. a) Show how friction can be of great importance in doing farm work. (2 marks)

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- b) A combine harvester whose speed of travel in the field is $\frac{1}{2}$ km/hr is used to plough 4 acres of land per a day. Calculate the frictional force of the 2 hind tyres each of mass 2kg, given the coefficient of friction is 0.3.

(3 marks)

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- c) Briefly explain the factors that reduce the efficiency of a machine.

(5 marks)

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34. a) What is drifting of bees as applied in a apiary management. (1 mark)

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- b) Outline the likely causes of bee drifting in the apiary. (4 marks)

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- c) Explain factors that encourage colonization of a new bee hive. (5 marks)

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35. a) What is fish cage farming system? (2 marks)
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- b) Outline factors that influence fish cage farming system. (4 marks)
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- c) Describe the procedure of carrying out cage farming in fish production. (4 marks)
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36. a) What is gender as used in agriculture. (1 mark)
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- b) Explain how the following factors have retarded women contribution in agriculture. (4 marks)
- i) Decision making
-
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- ii) Resource control
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- iii) Education
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- iv) House hold income
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- c) Suggest ways how women participation in commercial agricultural production can be enhanced in Uganda. (5 marks)

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37. a) Describe the process of germination of a bean seed. (6 marks)

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- b) Mention **four** factors that can reduce seed germination efficiency in the field. (4 marks)

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END