NAME : ..... SIGN: .....

P515/1

Principles and Practices of Agriculture

Paper 1

August 2024

2 ½ Hours

ASSOCIATION OF SECONDARY SCHOOLS HEADTEACHERS OF UGANDA

(ASSHU)- NTUNGAMO

NTUNGAMO DISTRICT JOINT MOCK EXAMINATIONS 2024

Uganda Advanced Certificate of Education

PRINCIPLES AND PRACTICES OF AGRICULTURE

(Theory)

PAPER 1

2 HOURS AND 30 MINUTES

INSTRUCTIONS TO CANDIDATES :

- Attempt **all** Questions
- Answers to Section **A** should be written in the boxes provided. Answers to Section **B** should be written in the spaces provided

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Section	Marks
A	
B: Qn.31.	
32.	
33.	
34.	
35.	
36.	
37	
Total	

SECTION A (30 MARKS)

1. Which one of the following measures can effectively control fluctuations in the prices of agricultural commodities?
   A. Diversification
   B. Contract farming
   C. Specialization
   D. Intensive farming

2. Which one of the following causes of seed dormancy results from the anatomical state of the seed?
   A. Impermeable seed coats
   B. Embryo immaturity
   C. Presence of germination inhibitors
   D. Lack of enough oxygen

3. The interest rate on agricultural credit is determined by the following except
   A. Demand for credit
   B. Supply of loanable money
   C. Size of the credit
   D. Assets of the borrower

4. Which one of the following is a utilizable by – product resulting from microbial fermentation in the rumen?
   A. Glucose
   B. Alcohol
   C. Propionic acid
   D. Carbondioxide

5. An animal feed yields a starch equivalent of 65% means that
   A. 65kg of a feed yields as much energy as 65kg of starch
   B. 100kg of a feed yields as much energy as 65kg of starch
   C. 65kg of a feed yields as much energy as 35kg of starch
   D. 35kg of a feed yields as much energy as 65kg of starch

6. In cattle, the gene for black colour is dominant to that for brown colour. If a bull and a cow heterozygous for this character are mated, the percentage of offsprings expected to be brown would be
   A. 75%
   B. 50%
   C. 25%
   D. 100%

7. Which one of the following is the main reason for a ligning a nursery bed along a north – south direction?
   A. It allows for even distribution of light in the nursery bed
   B. It protects the seedlings from strong winds
   C. It minimizes the rate of transpiration among seedlings
   D. It eases management operations in the nursery bed

8. The main bottleneck to the use of artificial insemination to serve animals on heat in Uganda is
   A. Large number of animals involved
   B. Poor feeding of animals
   C. Prevalence
   D. Limited number of inseminators

9. Which one of the following explains the main impact of inbreeding among cattle?
   A. It leads to a decrease in the number of pairs of homozygous genes
   B. It maintains the number of pairs of heterozygous genes
   C. It leads to an increase in the number of pairs of homozygous genes
   D. It leads to an increase in the number of pairs of heterozygous genes

10. Which one of the following describes alluviation in the soil profile?
   A. Leaching of minerals
   B. Deposition of colloidal materials
   C. Downward movement of colloidal materials
   D. Dissolution of mineral salts

11. Which one of the following would be the opportunity cost of growing vanilla with a net income of 4 million shillings instead of maize with a net income of 2 million shillings on the same acreage of land?
   A. 6 million shillings
   B. 2 million shillings
   C. 3 million shillings
   D. 4 million shillings

12. Which of the following processes in animal breeding results into production of a hydrid?
   A. Self – fertilization of individuals
   B. Crossing closely related individuals with recessive traits
   C. Back – crossing individuals having recessive traits
   D. Crossing unrelated individuals of the same species

13. Which one of the following statements is true of the relationship between supply, demand and price of a commodity?

A. When demand decreases and supply remains constant, the price increases
B. When demand increases and supply remains constant, the price falls
C. When supply increases and demand falls, the price rises
D. When supply increases and demand remains constant, the price falls

14. The reaction below represents a process of weathering

$CaSiO_{3\,(s)} + 2H_2O \longrightarrow H_2SiO_{3\,(aq)} + Ca(OH)_{2(aq)}$

Which one of the following processes in rock weathering is represented by the equation?

A. Hydrolysis
B. Reduction
C. Hydration
D. Acidification

15. When a super phosphate fertilizer is applied to a clay soil, crops may not show a positive response because

A. phosphate uptake by crops is suppressed by other minerals in clays
B. the acidity of clay soils reduces the solubility of phosphates
C. phosphates get fixed into insoluble minerals once in clay
D. clay soils are usually water logged and dissolve the phosphates which are leached

16. Which one of the following describes a complex community in an ecosystem? It is a community

A. with pioneer species that are still progressing to another level of succession
B. with many species of organisms living together
C. with only biotic components in a habitat
D. which is relatively stable and in equilibrium with its environment

17. A nose ring is fixed in the nose of a work animal in order to

A. identify the animal
B. ensure effective control of the animal
C. stop the animal from eating while at work
D. indicate a proven draught animal

18. Which of the following is the main advantage of practicing urban farming?
A. Production costs are low
B. There is easy access to consumer markets
C. Products are packed before sale
D. Farmers earn much income from it

19. Which one of the takes place during the light stage of photosynthesis?
A. Oxygen is given off as a by - product
B. Carbondioxide combines with ribulose bi – phosphate
C. Water molecules are split
D. Electrons are emitted from chlorophyll molecules

20. Which one of the following is the most important factor considered while selecting tree species to grow for timber production?
A. Disease resistance
B. Early maturity
C. Narrow crown
D. Straight growth

21. Which one of the following is not a feature of resettlement? It involves
A. a planned transfer of a population from one area to another
B. a process of transferring people from a more populated area to a sparsely populated area
C. a transfer of people from one area to another area that has not been previously inhabited
D. relieving population pressure from an area by reducing the number of people settled on it

22. Agricultural lime is added to a fish pond in order to
A. disinfect the pond
B. fertilize the pond
C. control the pH of water in the pond
D. prepare the fish for harvesting

23. A farmer wants 16% protein ration made from using maize bran which has 8% protein and cotton seed cake which has 38% protein. The percentage of maize bran to be used in the ration is
A. 8%
B. 27%
C. 38%
D. 73%

24. Which one of the following is least considered when selecting building materials on the farm?
A. Quality of the materials
B. Cost of the materials
C. Size of the materials
D. Availability of the materials

25. Which one of the following properties of humus increases its ability to buffer soil pH?
A. It holds excess soil nutrients
B. It has a high zwitterion ability
C. It cannot be broken down any further
D. It has a high content of bases

26. Which one of the following tissues is responsible for the production of lateral roots in plants?
A. Pericycle
B. Epidermis
C. Pith
D. Collenchyma

27. Which one of the following strategies can improve the quality of milk produced by a cow?
A. Allowing the calf to suckle before milking
B. Cleaning the udder before milking
C. Restraining the animal well during milking
D. Increasing the milking interval

28. Which of the following factors does not affect the discharge rate of a sprayer?
A. Nozzle size
B. Volume of spray
C. Shape of the nozzle
D. Operating pressure

29. Which of the following soil characteristics is not influenced by the parent rock materials?
A. Type of soil formed
B. Texture of the soil
C. Nutrient content of the soil
D. Depth of the soil

30. Which one of the following events occur in early telophase during meiosis?

A. The cell starts to constrict across the middle
B. Chromatids draw apart
C. Chromosomes become shorter
D. Chromosomes arrange at the equator

SECTION B (70MARKS)

31. (a) Outline any **three** causes of seed dormancy **(03marks)**

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(b) Give any **three** reasons why grafting is important in crop production **(03marks)**

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(c) Suggest any **four** precautions taken while grafting to ensure its Success **(04marks)**

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32. (a) Define the term *"feeding standards"* as used in animal Nutrition **(02marks)**

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(b) Outline any **four** reasons for the use of a safety factor while formulating animal feeds **(04marks)**

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(c) Suggest any **four** advantages of mixing animal feeds on the farm **(04marks)**

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33. (a) Distinguish between **genetic erosion** and **gene cloning**

(02marks)

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(b) State any **four** problems associated with the production of genetically modified organisms **(04marks)**

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(c) Explain **four** causes of variations in a population of living organisms **(04marks)**

34. (a) Explain any **five** factors that affect the method of fertilizer application to use on the farm **(05marks)**

(b) Describe the procedure of preparing liquid manure from fresh cow dung **(05marks)**

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35. (a) State **five** ways of encouraging bees to colonize a bee hive **(05marks)**

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(b) Suggest **five** ways that farmers can employ to prevent drifting of bees in an apiary **(05marks)**

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36. (a) Suggest ways of preparing an ox for a day's work **(05marks)**

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(b) Give **five** ways of maximizing power output from an ox during Ploughing **(05marks)**

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37. (a) Give any **five** roles played by agricultural research stations in agricultural development in Uganda **(05marks)**

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(b) Suggest **five** measures that can be adopted to ensure food security in Uganda **(05marks)**

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