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P515/1
PRINCIPLES AND
PRACTICES OF
AGRICULTURE
PAPER 1
June/July 2022
2 hours 30 minutes



UGANDA NATIONAL AGRICULTURE TEACHERS' ASSOCIATION (UNATA)

Uganda Advanced Certificate of Education

PRINCIPLES AND PRACTICES OF AGRICULTURE

Paper 1

2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES:

- This paper consists of two sections *A* and *B*.
- Answer *all* questions in both sections.
- Write answers to section *A* in the boxes provided.
- Write answers to section *B* in the spaces provided.
- No additional sheets of paper should be attached to this question paper.

For Examiners' Use Only			
Section		Marks	Examiner's Signature & No.
A			
B	No. 31		
	No. 32		
	No. 33		
	No. 34		
	No. 35		
	No. 36		
	No. 37		
Total			

SECTION A (30 MARKS)

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

1. During silage making, materials are chopped on order to;

- A. Ensure effective decomposition of materials
- B. Make ingestion by animals easy
- C. Make them easy to compact
- D. Allow easy digestion by the animals

2. Irrigation of land ensures timeliness in agricultural operations by

- A. Ensuring growing of crops throughout the year
- B. Providing insurance against drought
- C. Allowing early opening of land
- D. Ensuring early harvesting of crop produce

3. Vegetation cover can conserve the soil through the following ways except

- A. Debris and silt from trees cover the soil to reduce erosion
- B. Tree canopy reduces loss of water from the soil
- C. Roots of trees hold soil particles together
- D. Leaves decay to form humus and improve on soil structure

4. Which one of the following is an advantage of using farm yard manure over inorganic fertilizers?

- A. Contains more nutrients
- B. Adds organic matter which improves on soil structure
- C. Does not alter pH
- D. Supplies all the micro-nutrients required by the plant.

5. Locusts are referred to as occasional pests because they

- A. cause relatively less damage
- B. cause significant loss in case of attack
- C. attack specific types of crops
- D. attack in specific seasons

6. The term lethal dosage refers to

- A. amount of the pesticide the can eradicate pests
- B. the concentration of the pesticide the kills 50% of the pest
- C. the pest population that cause economic damage
- D. the quantity of the pesticide used to reduce the number of pests

7. Non-ruminants possess long caeca to aid

- A. Digestion of the remaining proteins in the food
- B. Fermentation of cellulose
- C. Decomposition of coarse fibres
- D. Secretion of volatile fatty acids

8. Production of shell-less eggs by layers may be prevented by

- A. Vaccination
- B. Giving fish meal to layers
- C. Supplying layers with greens
- D. Increasing light in the laying house

☐

9. Cast iron is commonly used in the construction of farm machine parts because it is ...

- A. Hard and durable.
- B. Ductile.
- C. Cheap and malleable.
- D. Suitable for lighter casting.

☐

10. Feeding standard as used in animal nutrition refers to the...

- A. Energy value of feed stuffs.
- B. Dry matter content of feed stuffs.
- C. Nutrient content of feed stuffs.
- D. Nutrient requirement by livestock.

☐

11. Which one of the following does not affect gene frequency in a population?

- A. Mutation.
- B. Migration.
- C. Genetic drift.
- D. Epistasis.

☐

12. Goods are said to be complementary when...

- A. An increase in price of one, causes a decrease in quantity demanded of the other.
- B. An increase in price of one, causes an increase in quantity demanded of the other.
- C. An increase in price of one, causes no change in quantity demanded of the other.
- D. An increase in demand of one, causes a decrease in demand of the other.

☐

13. Which one of the following is a major factor determining the distribution of arabica coffee in Uganda?

- A. Altitude and rainfall.
- B. Temperature and prevalence of pests.
- C. Soil fertility and soil pH.
- D. Infrastructure and market.

☐

14. Humus contributes greatly to the buffering capacity of the soil because it...

- A. Holds excess soil nutrient.
- B. Has high zwitterion capacity.
- C. Cannot be broken down any further.
- D. Has a higher content of bases.

☐

15. The prolactin hormone is secreted by the...

- A. Corpus luteum.
- B. Anterior pituitary gland.
- C. Placenta.
- D. Ovaries.

☐

16. Which of the following is a symptom of calcium deficiency in crops?

- A. Leaf curling at the edges
- B. Death of growing parts
- C. Chlorosis of leaves
- D. Premature ripening of fruits

☐

17. During seedbed preparation, a disc plough is preferred to mould board plough because it...

- A. is faster.
- B. pulverizes the soil clods.
- C. levels the field for easier planting.
- D. rolls over field obstacles.

☐

18. Legumes and grass grown in the same pasture land are example of...

- A. joint products.
- B. competitive products.
- C. complementary products.
- D. supplementary products.

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19. A lever was used to lift a load of 80N by applying an effort of 20N. What was the mechanical advantage of the lever?

- A. 4.
- B. 60.
- C. 100.
- D. 1600.

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20. Compost is added to a fish pond before introducing fingerlings in order to...

- A. provide food to the fingerlings.
- B. provide materials for breeding nests.
- C. give pond water a dark colour to protect fish.
- D. encourages growth of water plants and algae.

☐

21. Which one of the following conditions may require the use of a spray race instead of a dip tank?

- A. Increased incidences of parasite attack
- B. Labour shortage in the farm
- C. Cases of heavily in-calf animals
- D. Large herds of cattle on the farm

☐

22. In animal nutrition, biological value refers to the total amount of;

- A. energy contained in feed consumed by the animal
- B. Nitrogen from the feed that is utilized by the animal
- C. Minerals in the feed minus the energy lost in the faeces
- D. Proteins in the feed minus the energy lost in the urine

☐

23. Back crossing is carried out in livestock improvement in order

- A. transfer desired traits from offsprings to other animals
- B. create variations in traits within the herd
- C. increase the genes from the desired parent in the herd
- D. know the percentage of inherited potential in offsprings

☐

24. A broiler bird consumed a food ration at a rate of 3.4% of its body weight per day. Which one of the following is the amount of food consumed for 3 months by 400 broiler birds each weighing 3kg?

- A. 2448kg
- B. 3672 kg
- C. 9180 kg
- D. 1224kg

25. Which one of the following is an advantage of embryo transfer?

- A. Increases hybrid vigour.
- B. Eliminates undesirable traits from the herd.
- C. Allows a farmer to choose between male and female off-springs.
- D. Eliminates free martins in a herd.

26. A likely response when price of a product is set below equilibrium is that

- A. the product floods in the market
- B. buyers become reluctant to buy the product
- C. the price of the product continues to fall
- D. sellers hoard the product and raise the price of the product

27. Which one of the following pairs of diseases is caused by protozoa?

- A. Anthrax and Brucellosis.
- B. Rinderpest and foot and mouth disease.
- C. Trypanosomiasis and Coccidiosis.
- D. Tuberculosis and Mastitis.

28. Which one of the following is an advantage of battery cage system of poultry keeping over the deep litter system?

- A. It keeps birds from predators, thieves and bad weather.
- B. Birds receive adequate food and water while in the cages .
- C. It provides information for individual performance records.
- D. It eliminates uncontrolled breeding since cages separate birds.

29. Which one of the following occurs in pasteurization of milk?

- A. Milk is cooled to a temperature below 4°C.
- B. Fat is removed from milk.
- C. Fat globules are broken up.
- D. Milk is heated to a temperature just below boiling point.

30. In estimating the population of Tilapia in a fish pond. 60 fish were captured, marked and released. After 2 days, 50 were captured and out of which 10 were marked. The population of Tilapia in the fish pond was

- A. 300
- B. 400
- C. 200
- D. 100

SECTION B (70 MARKS)

Attempt all questions in the spaces provided

31 (a) Explain four benefits of using village farmers' organizations to distribute agriculture credit. (04 marks)

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(b) Suggest any six guidelines that should followed for efficient running of the village farmers' organizations. (06 marks)

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32 (a) Differentiate between inbreeding and crossing breeding in farm animals. (03 marks)

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(b) Mention four problems caused by inbreeding in farm animals. (04 marks)

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(c) Suggest three measures to control inbreeding in farm animals. (03 marks)

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33 (a). Explain five roles of living organisms in soil formation. (05 marks)

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(b) What factors influence the abundance of living organisms in the soil. (05 marks)

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34(a) Describe four environmentally friendly ways of improving resistance of crops to pests in the garden. (04 marks)

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(b) Explain six effects of pesticides on the ecosystem. (06 marks)

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35(a) Mention five reasons for carrying out crop improvement. (05 marks)

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(b) Describe five methods used to improve crops on the farm. (05 marks)

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36 (a) Describe the features of the following parts of a cattle dip.

(i) Collecting yard

(01 mark)

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(ii) Entrance race

(01mark)

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(iii) Drainage race.

(01mark)

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(iv) Dip tank.

(01mark)

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(v) Foot bath.

(01mark)

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(b) Outline five causes of dilution of the dip wash.

(05 marks)

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37 (a) Describe the life cycle of blue tick

(06 marks)

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(b) What are the effects of ticks on farm animals?

(04 marks)

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END