Name : .....
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P515/1
PRINCIPLES AND PRACTICES OF AGRICULTURE
Paper 1
Theory
[redacted]
2 ½ hours

Uganda Advanced Certificate of Education

[redacted]

Principles and Practices of Agriculture
THEORY
Paper 1
2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES

This paper consists of **two** *sections* **A** *and* **B***. Attempt* **all** *questions in section* **A** *and* **B***.*
For section **A***, put the best alternative corresponding to the best answer in the box on the right hand side of each question.*

For section **B***, write the answers in the spaces provided.*
No *work on additional sheet of paper shall be marked.*

For Examiners' use only		
Section	**Total Score**	**Examiner's initials / remarks**
A		
B : No. 31		
No. 32		
No. 33		
No. 34		
No. 35		
No. 36		
No. 37		
Total		

Turn Over

SECTION A: (30 marks)

1. Why do tropical cattle have a large dew lap?
   A. To absorb excess heat from animal's body.
   B. To increase surface area for heat loss.
   C. To fan the animal as it moves from one place to anothe
   D. To release heat when the animal sweats.

2. Which one of the following is the reason for feeding livestock on bulky feeds?
   A. They contain a lot of energy.
   B. They are largely digestible.
   C. They are largely consumed.
   D. Contain a lot of proteins.

3. What is the major advantage of asexual reproduction in crop breeding?
   A. Increase in hybrid vigour.
   B. Increase in heterozygosity.
   C. Maintenance of constant gene number.
   D. Production of high yielding plants.

4. Which pair of the following hormones is produced by pituitary gland?
   A. Oxygen and oestrogen.
   B. Luteinising hormone and progestrone.
   C. Oestrogen and progestrone.
   D. Oxytocin and follicle stimulating hormone.

5. Which one of the following is an uncertainity in farming?
   A. Change in taxation.
   B. Pest outbreak.
   C. Theft of produce.
   D. Change in weather.

6. The objective of inoculation in legumes is to
   A. encourage nutrient uptake by legumes.
   B. encourage rooting.
   C. increase disease resistance.
   D. put suitable rhizobia bacteria near plant roots.

7. Which one of the following best explains instability in prices of agricultural products?

A. Over production by farmers.
B. Imperfect knowledge by farmers.
C. Difference between decision making and actual output
D. outbreak of pests and diseases.

8. The demand for land is derived demand. This means that

A. land is needed for a short time.
B. land has limited demand.
C. land is important for what it can produce.
D. land has no demand.

9. Frequency of dipping farm animals is influenced by
A. number of animals on the farm.
B. type of animals to be dipped.
C. presence of ticks.
D. season of the year.

10. Square shaped ponds are preferred to rectangular ones because squared ponds;
A. hold more fish.
B. allow uniform distribution of oxygen.
C. are cheap to construct.
D. avoids silting of the pond.

11. What do you understand by the term “algal bloom” as used in fish farming?

A. Production of carbon dioxide by algae.
B. Use of oxygen by algae.
C. Removal of algae from ponds.
D. Rapid growth of algae in ponds.

12. The following are characteristics of commercial agricultural sector except;

A. import oriented.
B. diversification.
C. suitable resource utilization.
D. guaranteed food security.

13. Which one of the following is not an objective of Plan for Modernization of Agriculture (PMA) in Uganda?

A. To ensure the dissemination and ephetic research results.
B. To promote sustainable and manageable use of natural resources.
C. To increase incomes and improve quality of life of subsistence farmers.
D. To create employment through secondary benefits.

14. In processing of honey, combs and wax are not heated directly on fire because;
A. combs and wax develop a dark colour.
B. combs and wax can melt and mix with honey.
C. it is difficult to separate them after.
D. it leads to loss of valuable wax that would be sold separately.

15. Which one of the following plant elements will show purple, orange or red patches in crops when deficient in the soil?

A. Magnesium.
B. Potassium.
C. Calcium.
D. Sulphur.

16. Which type of bee is well adapted to local weather conditions?
A. European bee.
B. Queen bee.
C. African wild bee.
D. Honey bee.

17. Which one of the following is **not** a preventive measure in the control of livestock diseases on the farm?

A. Treating sick animals.
B. Vaccination.
C. Quarantine.
D. proper hygiene.

18. Which one of the following group of stages of spermatogenesis is a correct square?

A. Premodal germ cell, Secondary spermatocyte, Spermatids
B. Primary spermatocyte, Premodal germ cell, Spermatic
C. Premodal germ cell, Secondary spermatocyte, Spermatids
D. Premodal germ cell, Spermatids, Primary spermatocyte,

19. What causes increased branching in plants when the terminal bud is removed?
A. Exposure of lower part to sunlight.
B. Increased rate of photosynthesis.
C. Increased levels of auxins.
D. Increased effects of giberallins.

20. Which one of the following is not a determinant of elasticity of demand?
A. Price of the commodity.
B. Time taken to produce a commodity.
C. Uses to which the commodity is put.
D. Necessity of the commodity.

21. The factor that is least considered when deciding on fertilizer to use on a crop is

A. Rainfall intensity.
B. Type of soil.
C. Type of crop.
D. Stage of crop growth.

22. In budgeting, the break even point indicates the minimum value that would give;
A. a loss.
B. maximum profit.
C. minimum profit.
D. no profit.

23. When applying urea fertilizer to the soil, it is worked out to:
A. quickly modifying pH of soil.
B. stimulate germination of seeds.
C. prevent volatilization of ammonia.
D. bring nitrogen closer to plant roots.

24. Crumb and granular soil structures are characteristic of surface soils that are

A. well drained.
B. frequently cultivated.
C. high in organic matter.
D. not cultivated.

25. When too much water is supplied to crops during sprinkler irrigation;

A. soil and nutrients may be leached.
B. reduce leaching of soil nutrients.
C. improve resistance of crops to draught.
D. increase organic material of the soil.

26 Which one of the following expenses would best be appropriately financial by medium term credit?

A. Cost of labour.
B. Cost of buying irrigation pump.
C. Constructing farm building.
D. Establishing a tree crop.

27. Which one of the following types of alloy steel can be used in the making of springs, shafts and gears?

A. Chrome – vanadium steel.
B. Tungsten steel.
C. Nickle steel.
D. Boron steel

28. A wire that can stretch greatly is said to be of

A. low tensil.
B. low strength.
C. high tensil.
D. extender strength.

29. Which one of the following pairs of tools is an odd man out?

A. Axe and dibber.
B. Dibber and peg.
C. Watering can and dibber.
D. Wheel barrow and hand trowel.

30. Which one of the ox – plough parts is a chain from yoke connected to for pulling purpose?

A. Link.
B. Draft rod.
C. Hake.
D. Frog.

SECTION B: (70 marks)

Answer **all** *questions in the spaces provided.*

31. Students of senior two carried out an experiment on bean plant using NPK fertilizer. Shortly after application, the crop started wilting.

(a) (i) What could have caused the wilting of the crop? (01 mark)

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(ii) Suggest with a reason what the senior two students should do to stop the wilting of the crop.

(02 marks)

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(b) Two years later there was a noticeable growth of algae in the near by stagnant water.

(i) State **two** effects of algae growth on acquatic life.

(02 marks)

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(ii) When fresh water from another nearby stagnant water was collected, the student observed under the microscope and found there a lot of amoeba. Suggest the reason for present of amoeba but not other microorganisms.
(02 marks)

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(c) Explain how other three factors that could have caused wilting of the crop had fertilizer not been applied.
(03 marks)

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32. (a) Explain **six** ways in which land fragmentation affect agricultural production. (06 marks)

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(b) State the steps involved in consolidating land.
(04 marks)

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33. (a) Explain the term concrete as used in construction of farm structuring.
(01 mark)

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(b) State **four** properties of concrete.

(04 marks)

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(c) Give advantages of using concrete as a constructional material. (05 marks)

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34. (a) Name **six** simple machines used in agriculture. (03 marks)

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(b) A wheel and axle was used by a farmer to lift water in a well of weight $400N$, that had a wheel as 4m and radius of axle as 1m with was applied force of $200N$.

Calculate the;

(i) mechanical advantage
(02 marks)

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(ii) efficiency of the machine
(02 marks)

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(c) Why is such a machine commonly used on small scale farms? (03 marks)

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35. (a) Describe **five** breeding management practices in sheep other than flushing.
(7½ marks)

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(b) Outline **three** advantages of flushing in sheep.
(03 marks)

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36. (a) Outline **six** characteristics of a good cover crop.
(06 marks)

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(b) How do cover crops help in soil and water conservation?
(04 marks)

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37. (a) Give signs of poor drainage.
(05 marks)

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(b) How is good drainage beneficial to the farmer?

(05 marks)

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