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P515/1
PRINCIPLES
AND PRACTICES
OF AGRICULTURE
PAPER 1
August 2016
2½ hours



WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Advanced Certificate of Education

PRINCIPLES AND PRACTICES OF AGRICULTURE

Paper 1

2 hours 30 minutes

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		

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SECTION A (30 MARKS)

Write the letter with the correct alternative in the box provided on the right.

- The type of pump with a double acting mechanism that ensures steady and continuous delivery of the spray mixture is:-
 A. boom sprayer pump
 B. simple hand sprayer
 C. plantector pump
 D. spray Race ☐
- A soil sample was analyzed and the particles were found to have a diameter between 1.00mm-0.5mm. The texture of the soil is said to be;
 A. very fine sand
 B. very coarse sand
 C. coarse sand
 D. fine sand. ☐
- Secondary thickening in flowering plants is brought about by division of
 A. Phloem Cells
 B. Cambium Cells
 C. Xylem Cells
 D. Cortex Cells. ☐
- Which of the following animal diseases is caused by metabolic disorder?
 A. Foot and mouth
 B. Mastitis
 C. Ketosis
 D. Black quarter. ☐
- The type of chemical reaction between water and the mineral elements in the rock is;
 A. hydrolysis
 B. carbonation
 C. oxidation
 D. hydration. ☐
- Which of the following farm machines illustrates a second class lever?
 A. Tractor jack
 B. Secateur
 C. Claw hammer
 D. Wheel burrow ☐
- Silent heat in cattle can be caused by;
 A. high levels of progesterone
 B. low level of Luteinizing hormone
 C. low levels of oestrogen
 D. high levels of prolactin ☐

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8. Which of the following factors may not influence the level of supply of agricultural commodities?
- Level of technology
 - Level of demand
 - Government policy
 - Quality of the product
9. Clay soil can be properly worked on using;
- slatted mould board plough
 - general purpose mould board plough
 - ox-mould board plough
 - stubble mould board plough.
10. Bulk density of the soil can be increased by;
- reduction of pore space
 - increase of pore space
 - minimum cultivation of soil
 - addition of organic matter to soil.
11. Mushroom cultivation can be done on the following substrates except;
- Chicken manures
 - Cotton seed hulls
 - Cotton straws
 - Wood shavings
12. Stilboesterol, hexoestrol and thyroxiply added to feeds to improve on growth and feed utilization are referred to as:-
- flavourings
 - additives
 - antioxidants
 - antibiotics
13. One advantage of using a disc plough is that it;
- covers trash properly
 - can roll over obstacles
 - is lighter than a mould board
 - produces a fine tilth
14. Which one of the following best explains the reasons for chopping grass before feeding it to animals?
- Improve feed palatability
 - Improve feed nutritional value
 - Increase feed intake.
 - Increase digestibility of the feed.
15. Which of the following minerals nutrients are constituents of Chlorophyll?
- Potassium and sulphur
 - Nitrogen and magnesium
 - Calcium and phosphorous
 - Zinc and copper.

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16. In-breeding is a practice that:
- produces lines in a herd.
 - produces animals with hybrid vigour
 - is used to improve local breeds
 - reduces breeding diseases in a herd.
17. Which of the following groups of terrestrial animals conserves body water most efficiently?
- Mammals
 - Insects
 - Birds
 - Reptiles.
18. Which one of the following is uncertainty in farming?
- Death of the farmer.
 - Disease outbreak
 - Changes in government policies
 - Theft of agricultural products.
19. The more the variation in a population, the greater is its potential to:-
- give rise to gene flow.
 - produce more off springs.
 - adapt to new changes in the environment.
 - grow fast.
20. Which of the following methods of valuing assets on the farm would be most appropriate for a tractor?
- Cost less depreciation
 - Market cost value
 - Production cost
 - Net market price
21. Egg plants belongs to the family of
- Solanaceae family
 - Brassicace family
 - Cruciferae family
 - Rubiaceae family.
22. The measure of physical output per unit of input on the farm can be best described as:
- overdraft efficiency
 - yield index
 - economical efficiency
 - technical efficiency.

23. When the shoot apex of a growing plant is removed, lateral growth is encouraged because;

- A. auxins are activated in buds
- B. growth of lateral buds is stimulated by gibberellins
- C. more abscisic acid is produced to promote lateral growth.
- D. cytokinins are activated in absence of auxins at the apex

☐

24. On which of the following farm items would you fix a depreciation rate.

- A. Farm machinery
- B. Farm land
- C. Produce ready for sale.
- D. Live stock.

☐

25. Which is the order of the stages of the soil forming processes;

- A. Translocation-decomposition-disintegration.
- B. Disintegration-decomposition-translocation.
- C. Decomposition-disintegration-translocation.
- D. Decomposition-translocation-disintegration.

☐

26. Side thrust in a an ox-plough can be overcome by the;

- A. Share
- B. Landside
- C. Yoke
- D. Furrow wheel

☐

27. Detachment of grains of cereals from their head can be best done using a.

- A. Sheller
- B. Dehusker
- C. Thresher
- D. Winnowing.

☐

28. The biggest advantage with differed grazing is that it:-

- A. may limit animal usage of pastures.
- B. encourages accumulation of wastes in pasture.
- C. control pasture weeds
- D. decreases tick population in a pasture.

☐

29. Biological pest control in plants involves

- A. use of a living agent.
- B. early planting
- C. trapping
- D. intercropping.

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30. What is the use of a ball valve in a water tank?

- A. Regulates the flow of water through the outlet pipe
- B. Opens and closes the overflow pipe.
- C. Opens and closes the flow of water into the tank.
- D. Allows the draining of water from the tank.

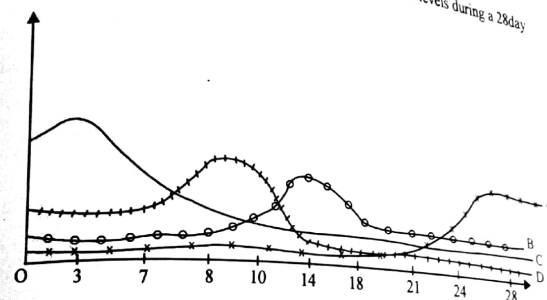
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SECTION B (70MARKS)

Write your answers in the spaces provided

31. The graph below shows changes in the reproductive hormones levels during a 28day period in a cow.



(a) Identify the hormones

(04marks)

- A.
- B.
- C.
- D.

(b) Give the role of each hormone identified above in the oestrus cycle. (04marks)

- A.
- B.
- C.
- D.

(c) Giving a reason, suggest whether the above cow was able to conceive after insemination on the 13th day of the cycle. (02marks)

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32. (a) Explain the characteristics you would consider when selecting a breeding stock for poultry. (05marks)

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- (b) What feeding management practices should a farmer carry out during the management of a poultry flock. (05marks)

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33. (a) Outline the principle characteristics of organic farming. (04marks)

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- (b) Describe how peri-urban farmers can raise mushrooms up to harvesting stage. (06marks)

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34. (a) Give the meaning of the following population terms. (4marks)

(i) Population density

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(ii) Demographic transition

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(iii) Optimum population

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(iv) Mortality Rate

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- (b) Explain how a high population density can affect agricultural production in a given area. (06marks)

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35. (a) Differentiate between **power** and **energy** as used in farm machinery. (02marks)

(b) If a tractor is moving at a speed of 8kmhr^{-1} during ploughing and its engine is generating a power of $20,000\text{W}$. Calculate the draw bar pull being exerted on the implement. (04marks)

(c) Suggest **four** recommendations to increase the adoption of tractor use by most farmers. (04marks)

36. (a) Give **three** objectives of carrying out sales promotion during the marketing of agricultural produce (03marks)

(b) One of the strategies of promoting agricultural production is through value addition. What steps should farmers take in order to increase value to their produce? (03marks)

(c) Briefly outline the components of a good marketing strategy (plan) one would carry out for a dairy product (04marks)

37. (a) Explain **five** ways how soil micro organisms affect soil productivity. (05marks)

(b) Name and explain **five** soil properties that influence the activities of micro-organisms in the soil. (05marks)

END

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