

Name: Centre/Index No.....
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P515/1
PRINCIPLES
AND PRACTICES
OF AGRICULTURE
PAPER 1
July/August 2017
2 ½ 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		

Turn Over

SECTION A (30 MARKS)

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

- The following hormones would be used by farmers to induce rooting of cuttings during vegetative propagation except.
 A. Indolebutyric acid.
 B. Indoleacetic acid.
 C. Abscicic acid.
 D. Napthaleneacetic acid.
- Which of the following types of soil water is left held so tight in loam soils during dry season?
 A. Hydrosopic.
 B. Gravitational.
 C. Capillary.
 D. Particle water.
- After fertilization, implantation takes place and secretion of paracrine allows the following to occur.
 A. More oxygen and nutrients flow the placenta.
 B. Prevents miscarriage of embryo.
 C. Swelling of the endometrium.
 D. Closure of the cervix.
- Which of the following saccharides will combine to form milk sugar?
 A. Sucrose and fructose.
 B. Glucose and fructose.
 C. Glucose and galactose.
 D. Fructose and galactose.
- Liming in clay soil is carried out to physically
 A. encourage aggregation.
 B. improve on soil pH.
 C. attract micro organisms.
 D. discourage soil aggregation.
- Which of these is true of maximum price for a product?
 A. It's between equilibrium price and minimum price.
 B. Its above equilibrium price.
 C. Its below minimum price.
 D. It's either above or below equilibrium price.

- It is advisable to discard unfertilized eggs during incubation because they decompose and can contaminate other eggs by producing
 A. methane.
 B. carbondioxide.
 C. hydrogen sulphide.
 D. carbon monoxide.
- In rabbits, the allele for rough coat (R) is dominant over the one for smooth coat (r) and that for black coat (B) is dominant over the one for white (b). The alleles for coat type and colour are not linked. A cross between rough black rabbit and rough white one produced 28 rough black, 31 rough white, 11 smooth black and 10 smooth white. Which of the following could be the genotype of the Parents?
 A. RrBb x Rrbb
 B. RRBB x RRbb
 C. RRBb x Rrbb
 D. RrBb x Rrbb
- Which of the following hormones would help reduce water loss for plants under conditions of water stress?
 A. Indoleacetic acid.
 B. Ethylene.
 C. Gibberellins.
 D. Abscissic acid.
- Worker bees are
 sterile females developed from fertilized eggs.
 fertile males developed from unfertilized eggs.
 sterile males developed from unfertilized eggs.
 fertile females developed from unfertilized eggs.
- process of interpreting information on mRNA into formation of polypeptides is known as
 A. transcription.
 B. translation.
 C. transduction.
 D. transformation.
- opting to make a nominal mix of concrete to floor a room used by heavy machinery would have cement: sand: gravel in the following ratios except.
 A. 1:2
 B. 1:3
 C. 1:4
 D. 1:6

13. Which of these examples of levers simplifies work by multiplying effort and changes the effort direction?
 A. Crowbar.
 B. Wheelbarrow.
 C. Bottle opener.
 D. Tweezers.
14. The part of the mould board plough that facilitates attachment to the tractor is
 A. hitch.
 B. disc hangers.
 C. frog.
 D. land side.
15. The following material may include health risks when used for so long in collecting water for home consumption.
 A. asbestos.
 B. iron.
 C. aluminium.
 D. plastics and polythene.
16. During movement, the rolling of tilapia fish body along its longitudinal axis is normally controlled by
 A. dorsal fins.
 B. pelvic fins.
 C. pectoral fins.
 D. lateral line.
17. Plants showing yellowing of leaves mainly along the margins survive in soil deficient of
 A. nitrogen.
 B. magnesium.
 C. phosphorous.
 D. zinc.
18. A market situation where one seller and many buyers compete and commodity is taken by one who pays the highest price is
 A. haggling.
 B. cartel.
 C. fixing by treaties.
 D. auctioning.

19. Using the marginal productivity theory; wages for labour are determined using;
 A. prices of the output.
 B. value of marginal product.
 C. amount of work done by workers.
 D. current economic status of the farmer.
20. Determine the quantity of urea needed to supply 160kg N/ha if urea is 40% N.
 A. 4kg/ha.
 B. 40kg/ha.
 C. 64kg/ha.
 D. 400kg/ha.
21. Most fungal diseases are hard to control in crops because
 A. fungi are not seen with the naked eye.
 B. fungi produce many spores.
 C. can tolerate wide range of soil conditions.
 D. are resistant to drought.
22. Breeding for shortness in tobacco crops enables
 A. easy picking.
 B. disease resistance.
 C. reducing damage to wind.
 D. makes crop tolerant to drought.
23. In the preparation of silage, molasses is added in order to
 A. increase temperature.
 B. kill harmful organisms.
 C. act as a catalyst.
 D. aid bacterial action.
24. In mushroom husbandry, carbofuran is added to the substrate to
 A. increase nutrient uptake.
 B. control nematode attack.
 C. increase composting rate.
 D. increase spawn growth rate.

- Selection in poultry is aimed at
 A. increasing stock number.
 B. preventing inbreeding.
 C. improving health status.
 D. improving quality of poultry products.

26. Homogenization is done in milk processing to
- remove moisture from the curd.
 - separate cream from milk.
 - break fat to form uniform mixture.
 - remove milk particles.
27. Indigenous cattle breeds are adapted to tropical conditions as they possess
- strong legs.
 - many sweat glands.
 - deep body to store food.
 - hump to store fat.
28. Rice consumption of 500kg was reduced to 300kgs when the price rose from 5,000/= to 8,000/= per kg. Calculate the elasticity of demand for rice during that period.
- 0.06.
 - 15.
 - 0.6.
 - 1.5.
29. Which of the following terms refers to promotion of the rights of disadvantaged persons?
- Gender equality.
 - Gender mainstreaming.
 - Affirmative action.
 - Gender equity.
30. Which of these soils are characterized by poor drainage and thick organic matter?
- Ferralsols.
 - Vertisols.
 - Histosols.
 - Nitisols.

SECTION B (70 MARKS)

Write your answers in the spaces provided

- a) i) Explain the meaning of the term drought. (02 marks)

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- ii) What are the causes of draught in a particular area. (04 marks)

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- b) Suggest strategies that can be adapted to mitigate the effects of drought for sustainable agricultural production. (04marks)

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32. (a) Outline the effects of livestock rearing to the environment especially in an urban setting. (05marks)

- (b) What strategies can be taken to reduce the effects mentioned above? (05marks)

33. a) Describe the mechanism of operation of a hand operated knapsack pump sprayer. (05 marks)

b)

Calculate the pressure in a knapsack sprayer tank with liquid chemicals at a depth of 18cm given the (density of liquid is 1000kgm^{-3} , and acceleration due to gravity is 10ms^{-2}). (03 marks)

- c) How is application of pressure important in farm operations? (02 marks)

34. a)

What key issues should be considered when selecting an agriculture project in the school? (05marks)

Turn Over

- b) As a student of agriculture, how can you benefit from participating in any agricultural project in your school? (05marks)

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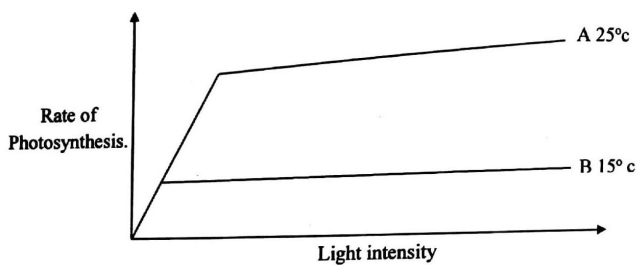
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35. The figure below illustrates the limiting factors for photosynthesis.



- (a) What limiting factors are illustrated in the figure above. (02marks)

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- (b) Describe how the factors illustrated limit photosynthesis. (04marks)

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- (c) Apart from those factors shown, explain two other factors that limit photosynthesis. (04 marks)

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36. (a) Briefly explain how co-operatives can influence the market price for agricultural commodities. (05marks)

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- (b) What principles enable co-operatives to operate successfully. (05marks)

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37. (a) Explain the effects of moisture and temperature on grain storage. (03marks)

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(b) Outline the precautions a farmer can undertake to ensure proper grain storage. (04 marks)

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(c) Identity **three** major causes of pre-harvest losses in grain production.

(03 marks)

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END