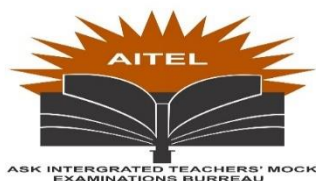


STUDENTS NAME: .....

SCHOOL NAME: ..... RANDOM NUMBER .....

**P515/1**  
**PRINCIPLES AND PRACTICES**  
**OF AGRICULTURE**  
(Theory)  
Paper 1  
**July/Aug. 2022**  
**2 ½ hours.**



**AITEL JOINT MOCK EXAMINATIONS**  
**Uganda Advanced Certificate of Education**  
**PRINCIPLES AND PRACTICES OF AGRICULTURE**  
**(THEORY)**  
**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.*

FOR EXAMINERS' USE ONLY		
Section	Marks	Examiner's comment
A		
B		
Total		

- Which one of the following methods of irrigation is best suited for arid areas?  
A. overhead  
B. surface  
C. drip  
D. sub surface
- Which of the following are useful products from cellulose digestion in ruminant  
A. Ammonia and nitrates  
B. Carbon dioxide and methane  
C. Vitamins K and B complex  
D. heat and water.
- Which of the following is the effect of raising the price of product above the equilibrium price.  
A. move of the products offered for sale.  
B. Demand for the products increases  
C. Less of the products is offered for sale.  
D. demand for the product does not change.
- The following are predisposing factors for mastitis except.  
A. stripping while milking  
B. poor milking hygiene  
C. injury to the udder  
D. delayed milking
- Which one of the following characteristics of water does not contribute to weathering?  
A. expansion during freezing  
B. ability to dissolve most natural materials  
C. Having a high specific heat capacity  
D. ability to flow into narrow cracks and crevice.
- Which one of the following least influence land tenure system.  
A. population density and pressure on land  
B. political & social organization of the people  
C. economic situation and level of development  
D. number of animals kept by farmers.

7. Which one of the following is a fixed cost?  
A. guarding services                      B. Workers pay  
C. Ground rent                              D. Opportunity Cost of resources. ☐
8. The best time to take a sample of dip wash for testing its strength is  
A. when animals are being dipped  
B. just before animals are dipped'  
C. immediately after mixing the acaricidel  
D. after animals have been dipped. ☐
9. Oil in the oil bath cleaner should be kept at the correct level because  
A. fouling of the spark plugs may occur  
B. oil may be drawn into the cylinder  
C. oil may be drawn into the filter mesh  
D. there may be inefficient cleaning of air. ☐
10. Which one of the following does not affect the hatchability of fertilized eggs.  
A. turning of eggs                              B. size of the egg  
C. ventilation                                      D. humidity ☐
11. Which of the following factors will most influence the response of cereal crop to fertilizer application  
A. type of fertilizers                              B. stage of crop growth  
C. soil structure                                      D. variety of the crop. ☐
12. The function of ribosomes in protein synthesis is.  
A. synthesis of mRNA                              B. formation of peptide chains  
C. synthesis of tRNA                                      D. assembling amino acids ☐
13. The strength of earth block can be increased by adding  
A. straw    B. aggregates  
C. clean sand    D. cement ☐
14. Which of the following statements is true about enzymes. They are  
A. species specific                                      B. temperature specific  
C. substrate specific                                      D. heat stable. ☐

15. Which one of the following statement is true in respect of region III of production function?
- A. Total produce increasing at decreasing rate  
B. marginal product is negative  
C. average product is equal to marginal products.  
D. profits is maximum.
16. A farmer may use concentrate feeding in dairy cattle when.
- A. he can afford it  
B. grazing is expensive  
C. a high nutrient intake by the cattle required.  
D. the cattle are zero grazed
17. Which one of the following bacteria is responsible converting ammonia to nitrate in the soil.
- A. Azotobacter  
B. Nitrosomonas.  
C. Rhizobium  
D. Nitrococcus
18. Which one of the following weeds can be best controlled by systematic herbicides?
- A. Lantana  
B. Wandering Jew  
C. Couch grass  
D. Wild finger millet
19. The following factors influence the use of land for extensive sheep rearing except
- A. rainfall  
B. light intensity  
C. topography  
D. climate
20. Which one of the following methods of identification is best for dairy herd.
- A. Branding  
B. ear notching  
C. ear tattooing  
D. ear tagging

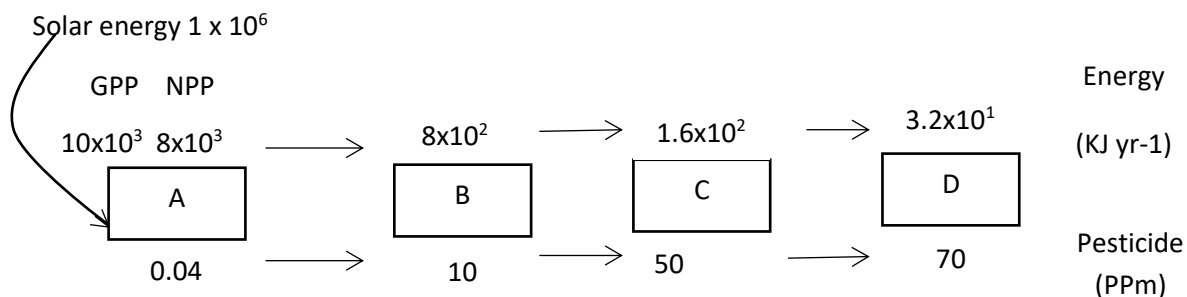
21. Gross National product (G.N.P) is the  
A. total value of goods and services produced both internally and externally  
B. total value of all goods and services produced excluding external earning  
C. Gross internal income less the variable costs.  
D. Difference between total earning and total expenditure. ☐
22. The following operation are used in seed treatment before planting except.  
A. seed conducting  
B. seed scarification  
C. pre-chilling  
D. germination test. ☐
23. Rubber materials best preserved by keeping them.  
A. smeared with oil  
B. in a shade  
C. in water  
D. in areas with little water. ☐
24. The main objectives of capnonising bird is to  
A. sterilize them  
B. reduce vices among birds.  
C. make them grow faster  
D. Open up the clogged cloaca ☐
25. The advantages of using solar on a farm is that.  
A. maintenance free  
B. pollution free  
C. cheap of hairness  
D. constant throughout the year ☐
26. Which one of the following is not an important consideration in the construction of Adam?  
A. purpose of the dam  
B. amount of rainfall  
C. type of the soil  
D. source of water ☐
27. Small dark spots which develop into holes on bean leaves. Is likely to be a symptom of  
A. Angular leaf spot  
B. bean rust  
C. bacterial blight  
D. bean anthacnose. ☐

28. The main function of the amniotic fluids to foetus is to
- A. protect the foetus  
B. convey nutrients to the foetus  
C. help in removal of waste products  
D. help in gaseous exchange.
29. Which one of the following metals is best for coating milk tins?  
A. lead                      B. tin                      C. brass                      D. zinc
30. Which one of the following substance is responsible for controlling of water loss from plant leave?  
A. fatty acids    B. wax  
C. glycerol    D. resins

## SECTION B (70 MARKS)

*Write the answers in the spaces provided*

31. Figure 1 shows the transfer of energy in  $\text{KJ yr}^{-1}$  (on top) and the amount of pesticide in parts per million (at the bottom), at different levels in a food chain in an ecosystem. Study the figure and answer the questions that follow.



- (a) (i) What organisms occupy level A on the diagram? (0½ mark)

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(ii) What is the percentage of incident energy absorbed by the organisms at level A? (01 mark)

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(iii) Where does the rest of energy which is not absorbed by the organisms at level A go? (01 mark)

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(b) Calculate the percentage of energy of the net primary production in the organisms at level A which is transferred to organisms at

(i) Level B (0½ mark)

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(ii) Level C (0½ mark)

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(ii) Level D (0½ mark)

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(c) What conclusion can be made from your answers in (b) about the transfer of energy along trophic levels? (01 mark)

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(d) Explain why all the energy at one trophic level is not transferred to the next trophic level. (01½ mark).

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(e) (i) Describe the trend of the pesticide concentration from organism at level A to those at level D. (01 mark)

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(ii) Explain the trend of the concentration of the pesticide described in (e) (i). (01½ mark)

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(iii) Suggest one property of the pesticide. Explain your answer. (01 mark)

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32. (a) Describe the procedure of erecting a barbed wire fence on a farm. (06 marks)

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(b) State the functions of any four parts of a Zero-grazing unit in dairy farming. (04 marks)

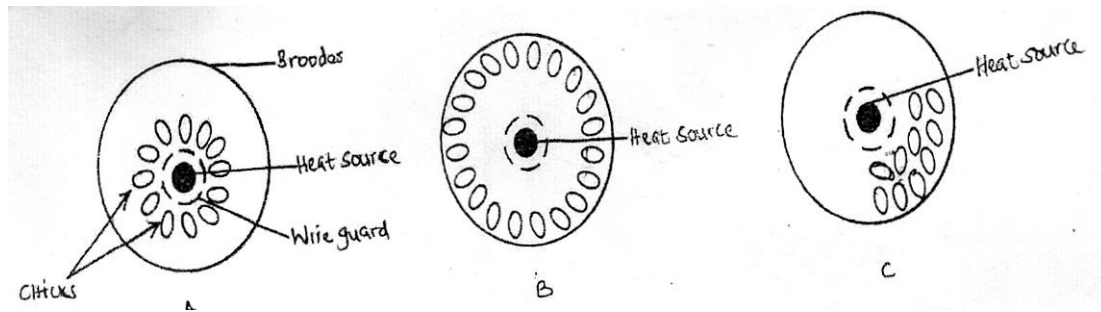
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33. (a) Below are illustrations showing the behavior of chicks in various brooders. Study the diagrams and answer the questions that follow.



(i) State the environmental problem in each brooder as illustrated by the behavior of the chicks. (03 marks)

A.....

B.....

C.....

(ii) State **two** ways of overcoming the problem in **B** (02 marks)

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(b) State the importance of keeping poultry birds healthy. (05 marks)

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34. (a) What is meant by each of the following in agricultural economics?

(02 marks)

(i) Gross Domestic Product

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(ii) Per capita income

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(iii) Land subdivision

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(iv) Land fragmentation

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(b) State **four** sources of agriculture credit to farmers

(02 marks)

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(c) Give **two** types of labour records (01mark)

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(d) State **three** ways in which agriculture supports agro-based industries. (03 marks)

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35. (a) State **five** types of simple machines commonly found on the farm. (05 marks)

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(b) An Apple crate of mass 40kg is pushed with a force of 140N up an inclined track of length 10m onto a lorry floor at a height of 2m from the ground.

(Take  $g=10\text{N/kg}$ )

Calculate the;

(i) Work done by the force of 140N. (02 marks)

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(ii) Work done if the box was lifted vertically upwards (03 marks)

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(a) Differentiate between ***epigeal*** and ***hypogeal*** germination. (02 marks)

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(b) State and explain factors considered when selecting materials for planting (08 marks)

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36. (a) Gender equality has become a very important aspect in agriculture.

(i) Define ***gender equality*** as used in agricultural production. (01 mark)

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(ii) Give the importance of gender equality in agriculture. (04 marks)

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(b) Outline **five** major issues of concern to gender mainstreaming in agriculture. (05 marks)

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37. (a) (i) Define the term ***agricultural policy***. (02 marks)

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(ii) State **three** objectives of agricultural policies in Uganda’s agricultural production. (03 marks)

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(iii) Outline **five** agricultural support services available to farmers in Uganda. (05 marks)

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**END**