AFRICA UNIVERSITY
A United Methodist-Related Institution

"Investing in Africa's future"

COLLEGE OF HEALTH, AGRICULTURE AND NATURAL SCIENCES

NACP 113: PRACTICAL AGRICULTURE 1

END OF FIRST SEMESTER FINAL EXAMINATIONS

NOVEMBER/DECEMBER 2022

LECTURER: MR. TABARIRA J.

DURATION: 3 HOURS

INSTRUCTIONS

Answer any **four** questions

All questions carry equal marks (20).

DO NOT repeat material.

Write legibly.

Credit will be awarded for logical, systematic and neat presentations

Question One

The information below relates to maize production program for a particular variety:

i) Seed size is medium round giving 2000 seeds per kg.
ii) The germination percentage of the seed is 90%.
iii) Recommended fertilizer rate is 300kg Comp. D per hectare
iv) Plant spacing 75 cm inter row by 30 cm intra row.

Using the information above, calculate the following:

a. Plant population at planting to achieve the targeted plant population at

harvesting. **[4]**

b. Amount of seed (kg) required at planting to achieve the desired plant population at harvesting.
[3]

c. Amount of fertilizer to broadcast per m^2.
[3]

d. Amount of fertilizer to drill along a 90m row.
[4]

e. Amount of fertilizer to apply per planting station.
[3]

f. Explain, giving justification the fertilizer application method you would recommend for your community**.**
[3]

Question Two

a. Outline four main preparatory activities your would undertake before receiving day old chicks at your farm
[8]
b. Explain four considerations would you take before establishing a rabbit project **[8]**
c. Discuss improvements you would recommend at the Small farm resource center rabbit project
[4]

Question Three

a. Define conservation farming and explain the principles of the farming system **[10]**

b. State four critical farming operations you have performed in your field plot at the AU farm. **[4]**

c. Explain the importance of any three of the operations cited in (b) above. **[6]**

Question Four

During sprayer calibration, a farmer obtained the following information:

Spray volume = 300 litres

Knapsack sprayer capacity = 16 litres

Herbicide application rate = 2 litres / hectare

Calculate:

a. Number of knapsack sprayers to complete one hectare **[3]**

b. Amount of chemical per knapsack sprayer **[3]**

c. Area covered by each knapsack sprayer **[3]**

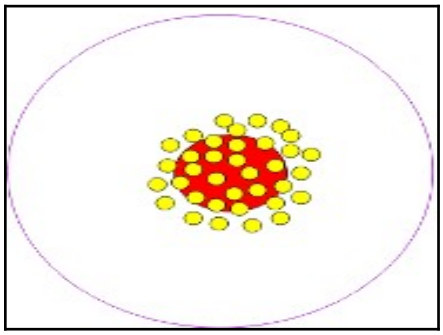
d. Amount of chemical to apply in a 90m x 60m plot **[3]**

e. Suppose the worker increases his walking speed what effect will this have on the spray volume and weed population in the field **[3]**

f. Weeds can be controlled using herbicides or hoeing (using a hoe). Justify which method you would recommend for your community **[5]**

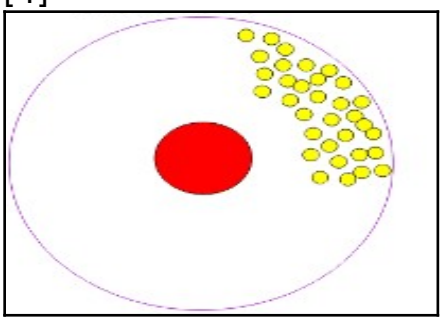
Question Five

a. The sketch diagrams below illustrates the behavior of broiler chicks in the brooder in relation to heat source (red/dark dot in the centre). Demonstrate your understanding of chick behavior by explaining the prevailing conditions in the brooders (i-iv below) and what corrective measures you would take.



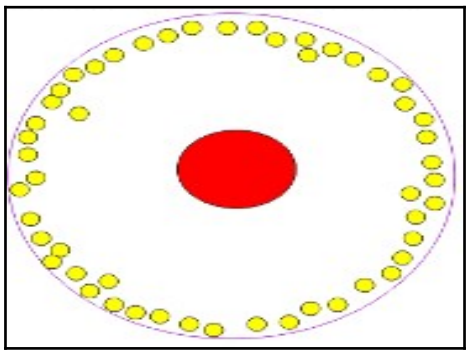
i.

[4]

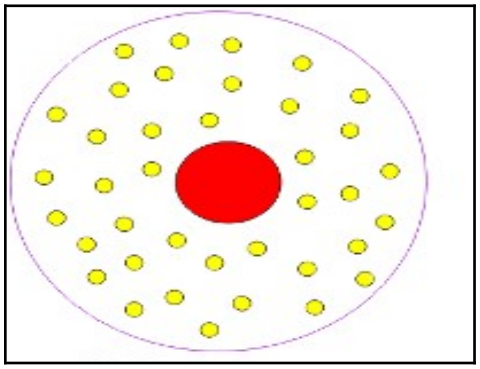


ii.

[4]



[4]



iii.
iv.

[4]

b. Comment on the AU brooding system and suggest possible improvements. [4]

Question Six

Briefly explain the importance of the following aspects in crop production

a. Soil depth **[2]**
b. Timing of operations **[3]**
c. Plant spacing **[3]**
d. Crop management **[3]**
e. Variety selection **[2]**
f. Land preparation **[2]**
g. Pest control **[2]**
h. Water management **[3]**

END OF EXAMINATION PAPER