



“Investing in Africa’s future”

COLLEGE OF HEALTH, AGRICULTURE & NATURAL SCIENCES

NACP 505: ADVANCED CROP PRODUCTION

END OF SECOND SEMESTER FINAL EXAMINATIONS

APRIL 2023

LECTURER: PROF. U. MAZARURA

DURATION: 3 HOURS

INSTRUCTIONS

1. Answer ANY FIVE Questions.

ANSWER ANY FIVE QUESTIONS

1. (a) Calculate the land equivalent ration (LER) in a pigeon pea + groundnut intercropping system if the yield of pigeon pea is 1.5 t/ha in the intercropping system and 2.2 t /ha in the pure stand, while that of groundnut is 2 t/ha in the intercropping system and 3 t/ha in the pure stand.

Comment on the LER you have calculated. [10 marks]

(b) Weeds are a real cause of drudgery to farm families, particularly, women and children in most African countries, who have to spend hours and hours for several days in weeding in crop fields. Besides drudgery to farm families, weeds have many harmful effects. Outline 4 such harmful/annoying effects of weeds. [10 marks]

2. Outline five factors that determine yield in Soya Bean (*Glycine max*). [20 marks]

3. To evaluate intercropping systems many techniques are used. Describe in detail four techniques used. Give the formulae used for each and explain all terms. [20 marks]

4. Outline, in detail, the five principles of permaculture. [20 marks]

5. Explain, in detail, the four basic principles of organic agriculture. [20 marks]

6. Outline five challenges for sustainable agricultural production and farming systems development. [20 marks]

7. Outline five conditions that affect photosynthesis.

[20 marks]

End of Examination Paper