



**NGETTA CAMPUS
FACULTY OF AGRICULTURE**

CERTIFICATE IN GENERAL AGRICULTURE

**INTRODUCTION TO FARM POWER AND MACHINERY
FINAL ASSESSMENT**

ACADEMIC YEAR 2023/2024 SEMESTER ONE

CAP I

DATE: 15TH/DEC/2023

TIME ALLOWED: 3 HOURS (2:00pm-5:00pm)

INSTRUCTIONS:

- *Attempt any four questions of choice*
 - *All questions carry equal marks*
 - *Start every question on a new page*
 - *Do not write anything on the question paper*
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Question 1:

- (a) What is meant by animal power? **(2 marks)**
- (b) Explain any eight (8) farm activities that can be carried out using animal power. **(8 marks)**
- (c) Under what circumstances is animal power successfully done. **(15 marks)**

Question 2:

- a)** Power is the rate of transfer of energy or power is the rate of doing work. Discuss the various sources of farm power in Uganda. **(15 marks)**
- b)** State the conditions necessary for the success of animal power.
(10 marks)

Question 3:

- a) A knapsack sprayer consists of key main components. Discuss. **(15 marks)**
- b) Outline the safety measures one should take when holding chemicals and spraying.? **(10 marks)**

Question 4:

- (a)** Discuss the 4 stroke cycle in a diesel engine. **(10 marks)**
- (b)** Define the following terminologies associated with engine operation;
 - (i) Top dead Centre
 - (ii) Bottom dead Centre
 - (iii) Stroke
 - (iv) valves
 - (v) Compression ratio**(10 marks)**

Question 5:

- a) What is the importance of tillage on soil properties? **(10 marks)**
- b) In agriculture production, there is a practice of both primary and secondary tillage. Discuss the objectives of primary and secondary tillage to a farmer. **(15 marks)**

Question 6:

- a) A lubricant is something which reduces friction between moving surfaces in machinery. Discuss any twelve (12) uses of lubricant in a machine.
(12 marks)
- B) What are the three common methods of engine lubrication? **(13 marks)**

Question 7:

- a) A moldboard is one of the oldest and simplest tools used in Northern and Eastern Uganda by peasant for ploughing. Draw and label the major parts of a moldboard plough. **(10 marks)**

- b) What are the limitations of using ox-moldboard plough in Uganda? **(15 marks)**

Question 8:

- a) State any ten differences between petrol and diesel engine. **(10 marks)**
- b) Discuss how relevant is agricultural mechanization is to the citizens of Uganda. **(15 marks)**

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