



SIR ARTHUR LEWIS COMMUNITY COLLEGE  
DIVISION OF AGRICULTURE

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ASSOCIATE DEGREE IN GENERAL AGRICULTURE  
2008/2009 ACADEMIC YEAR  
END OF SEMESTER 2 EXAMS

COURSE

**FARM MACHINERY/ BUILDING (FMB 208)**

#F22

Date: 5<sup>th</sup> May 2009

Duration: 2 ½ Hrs.

Instructions:

This paper consists of **seven (7)** questions.

Answer **ANY SIX (6)**.

Answer each new question on a separate page.

1. a) Explain **THREE (3)** reasons, which justify the introduction of farm power and machinery in agriculture? [6]
- b) i) Outline **TWO (2)** problems that limit mechanization of agriculture in St. Lucia? [4]
- ii) Discuss the benefits of using of human labour over Machine. [8]

**Total 20 marks**

2. a) Define the terms:
  - i) Mechanization
  - ii) Machine Capacity
  - iii) Machine efficiency. [6]
- b) i) Define the term internal combustion engine? [3]
- ii) Give **ONE** example of an internal combustion engine used on the farm. [1]
- c) What is the purpose of?
  - i) Crankshaft
  - ii) Camshaft
  - iii) Flywheel
  - iv) Valve system
  - v) Cooling system? [10]

**Total 20 marks**

3. a) Explain the difference between the engine cycles in two-stroke and four-stroke engines. [8]
- b) Comment on the appropriateness of small engines in local agriculture. [5]
- c) Explain **ONE** major disadvantage related to the use of tractors. [3]
- d) Distinguish between land clearing and land forming. [4]

**Total 20 marks**

4. a) Name the different methods of irrigation used on the farm. [2]
- i) List **THREE (3)** components of each irrigation system. [6]
- ii) State **ONE** function of these components in each system. [6]



- b) Which of these methods of irrigation would you consider most appropriate for growing tomatoes in the open field. Explain **THREE** (3) reasons why? [6]

**Total 20 marks**

5. a) List **TWO** (2) reasons why the pump may fail to function. [4]  
b) Explain **THREE** (3) reasons why irrigation is important in crop production in the field. [6]  
c) At the Sir Arthur Lewis Community College farm in Dennery, the electric pump raises water from the river to the tanks at a rate of 1000 kg per hour. If, the vertical height, that the water is raised between the river and the tank is 500 meters. Calculate the power requirement of the pump.  
Consider gravity as 10N/kg. [10]

**Total 20 marks**

- 6) a) Plastics have been used for many years in construction of greenhouses in the tropics. List **FIVE** reasons (5) why plastics are used in the construction of greenhouses. [5]  
b) List **THREE** shortcomings of plastics as a construction material? [3]  
i) Explain **TWO** (2) problems experience by farmer using these green houses and suggest how they can resolve these problems. [6]  
c) Discuss **THREE** major requirements of broiler production shelters. [6]

**Total 20 marks**

- 7) a) Sketch a floor plan for a sheep/goat pen. In your plan the following should be clearly identified:  
i) Dimensions of the building  
ii) Size of individual pens  
iii) Alleys  
iv) Feeding area  
v) Entrance/ exits [10]  
b) What type of material you would use for the floor; roof and walls? In each case discuss giving at least TWO reasons why and ONE short coming each of these materials used. [10]

**Total 20 marks**

**End of exams**

