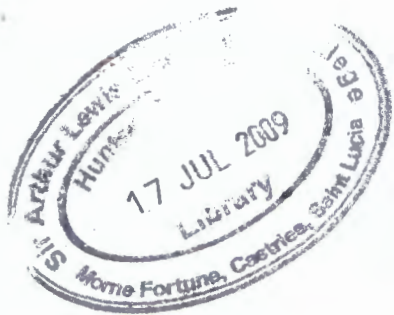


VF DAGRI PAST PAPERS

file



**SIR ARTHUR LEWIS COMMUNITY COLLEGE  
DIVISION OF AGRICULTURE**

**CERTIFICATE IN GENERAL AGRICULTURE  
2008/2009 ACADEMIC YEAR  
END OF SEMESTER 2 EXAMS**

**COURSE**

**BASIC FARM MACHINERY/BUILDINGS (BFM 107)**

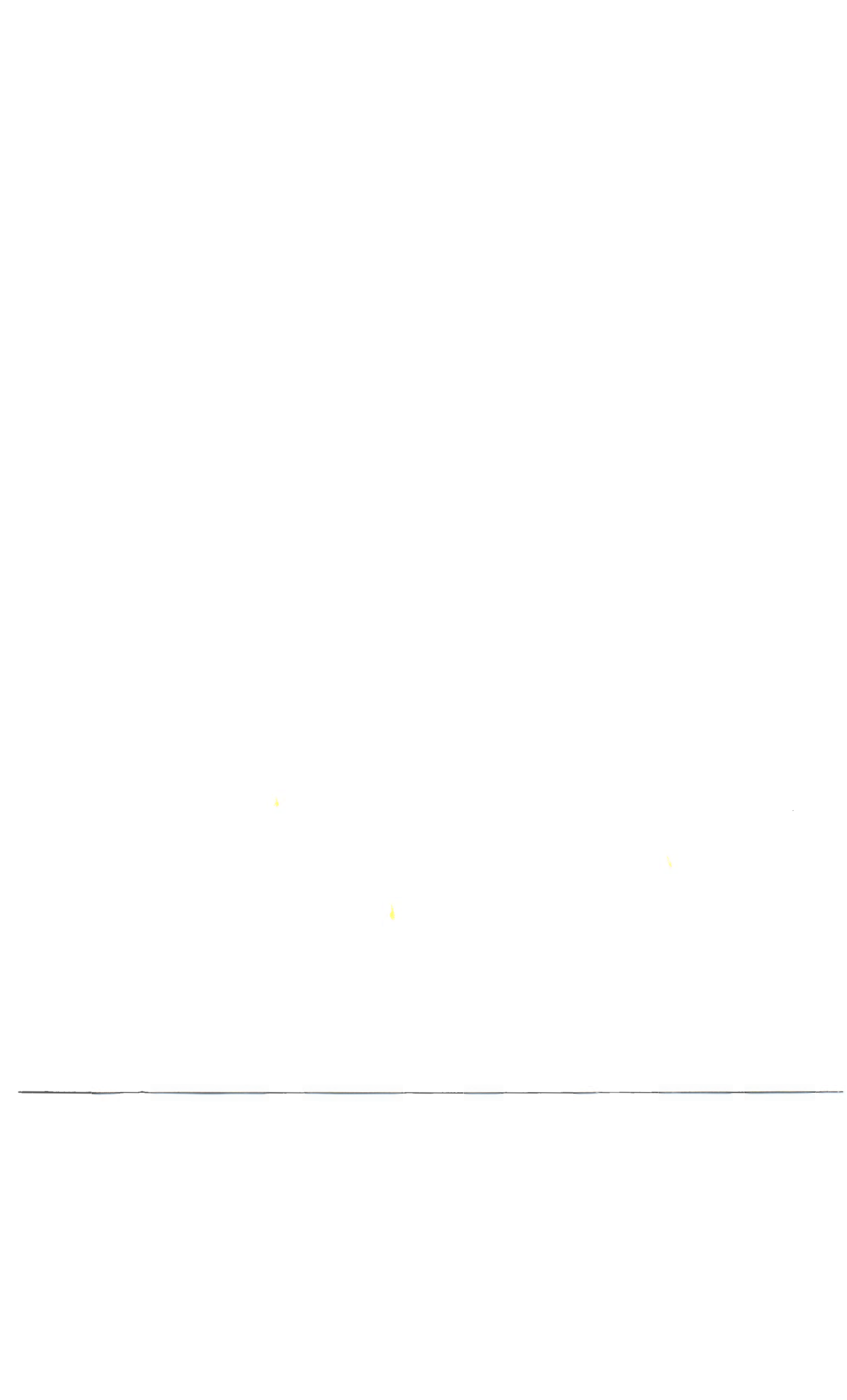
#F21

**Date: 7<sup>th</sup> May 2009**

**Duration: 2 ½ Hrs.**

1. (a) With reference to specific agricultural examples, explain the THREE benefits of mechanization. (9 marks)
  - (b) "General low productivity is not necessarily a good reason for mechanization."  
Explain this statement fully as possible. (9 marks)
  - (c) Indicate the TWO farm situations that favour reliance on human labour. (2 marks)
- Total 20marks**
2. (a) What is an internal combustion engine? (2marks)
    - i) What type of energy does it?
      - a) Create
      - b) Deliver(4 marks)
    - (b) What is the purpose of?
      - ii) Crankshaft (2 marks)
      - ii) Fuel system (2 marks)
    - (c) i) Sketch the operation of a four-stroke petrol engine, explaining the events at each stage. (4 marks)
    - ii) How will the events differ from those of a diesel engine? (4 marks)
    - (d) Discuss ONE advantages of using small engines as a source of power on local farms. (2marks)

**Total 20 marks**



3. (a) Explain what is meant by the term “machine capacity” and “machine efficiency”. (4 marks)
- (b) Define the term “Mechanical advantage and power”. (2 marks)
- (c) List three (3) types of simple machines. (3 marks)
- i) Name one example of a second-class lever. (1 mark)
- (d) At the farm in Dennery the electric pump raise water from the river to the tanks at a rate of 10,000 kg per hour. If the vertical height the water is raised between the river and the tanks is 200 meters. Calculate the power requirement of the pump.  
Consider the force of gravity as 10N/kg (10 marks)

**Total 20 marks**

4. (a) Give FOUR benefits of tillage? (4 marks)
- (b) Name one tractor driven implement used on the farm for:
- i) Primary tillage (1 mark)
- ii) Secondary tillage (1 mark)
- (c) Explain the mode of operation of the implements you mentioned in (b) above. (8marks)
- (d) Explain ONE advantage of using animal power on farms. (2 marks)
- (e) Explain TWO advantages of human labour. (4 marks)

**Total 20 marks**

- 5 (a) Explain any TWO benefits of providing shelter for plants in a nursery. (6 marks)
- (b) List FIVE (5) properties of plastic that make them useful in agricultural applications. (5 marks)
- (c) State TWO disadvantages of plastics as a construction material used in farm building. (4marks)
- (d) Tunnel greenhouses have been used locally for sometime now:
- i) Explain TWO advantages that tunnel greenhouses provide in local vegetable production. (4marks)
- ii) Name ONE shortcoming of these units in local conditions? (1mark)

**Total 20 marks**

