

2nd SEM.2006/2007

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**UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER**

PROGRAMME: BSC AGRIC 2, BSC AGRIC EDUC 2

COURSE CODE: LUM 203 (Old Programme) /

TITLE OF PAPER: FARM STRUCTURES

TIME ALLOWED: TWO (2) HOURS

**INSTRUCTIONS: ANSWER QUESTION ONE AND ANY TWO
OTHER QUESTIONS.**

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GRANTED BY THE CHIEF INVIGILATOR**

SECTION I: COMPULSORY QUESTION

QUESTION 1

- (a) Define "farm structures" as:
- (i) A discipline or area of study; and
 - (ii) A facility on the farm.
- (10 Marks)
- (b) Briefly discuss any **TWO** functions of a farm structure.
- (10 Marks)
- (c) Estimate the cost of materials to construct a 8.6m x 5.6m x100mm thick concrete floor for a milking parlour; given the following:
- (i) Nominal concrete mix of 1 : 2 : 4;
 - (ii) Cost of materials:

cement	E48.50 per bag;
Sand	E500/8-tonne load;
Stone (aggregate)	E1,200/8-tonne load
 - (iii) Weight per volume of sand is 1,5 tonnes per cubic metre;
 - (iv) Weight per volume of stone (aggregate) is 1.9 tonnes per cubic metre.

State any assumptions you make.

(20 Marks)

SECTION II: ANSWER TWO QUESTIONS FROM THIS SECTION

QUESTION 2

- (a) There is a wide range of materials that are used in the construction of structures on the farm. Briefly discuss **THREE** factors which should be considered in their selection.
- (15 Marks)
- (b) With examples, indicate **THREE** classes of farm structures, outlining the functions of each class.
- (15 Marks)

QUESTION 3

- (a) Briefly discuss **THREE** factors that need to be considered in the design of a structure for crop production **OR** livestock production.
(15 Marks)
- (b) Discuss the following construction materials highlighting their properties, advantages and disadvantages.
- (i) Wood/timber;
 - (ii) Earth; and
 - (iii) Concrete.
- (15 marks)

QUESTION 4

- (a) The storage of any agricultural produce can be expensive. Outline **TWO** reasons for storage indicating why it is necessary and when it is not beneficial to the farmer.
(10 marks)
- (b) Discuss **TWO** fundamental requirements of a good grain storage facility.
(20 marks)