



**UNIVERSITY OF SWAZILAND
SUPPLEMENTARY EXAMINATION PAPER**

**PROGRAMME: BSC AGRIC ECON. AGBMGT. II
BSC AGRIC EDUC. II
BSC AGRIC AGRON. II
BSC ANI. SC. II
BSC LWM. II**

COURSE CODE: LUM 205 (NEW PROGRAMME)

TITLE OF PAPER: FARM MECHANISATION

TIME ALLOWED: TWO (2) HOURS

SPECIAL MATERIAL REQUIRED: NONE

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

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GRANTED BY THE CHIEF INVIGILATOR**

SECTION I COMPULSORY

QUESTION 1

- a) Machine performance is critical in the management of farm machinery. Field efficiency is possibly the most critical factor in the estimation of the performance of field equipment. Briefly discuss any four ways of improving field efficiency.

[20 marks]

- b) Explain how the following can affect field efficiency:

- i) Farm pattern
- ii) Field size

[10 marks]

- c) Describe the method of static calibration of a planter.

[10 marks]

SECTION II ANSWER ANY TWO QUESTIONS

QUESTION 2

- (a) The Table below shows the time obtained during spraying with boom sprayer.

Activity	Duration (min/ha)
Turning at headlands	15
Refilling spraying tank	15
Actual spraying	40
Cleaning clogged nozzles	15
Other down time	25

Calculate the field efficiency of the sprayer.

[20 Marks]

- (b) A seed drill performs a variety of operations during planting. Briefly describe the operations performed by the seed drill.

[10 Marks]

QUESTION 3

- (a) If you were asked to explain to some high school students the differences between trailed, semi-mounted and mounted farm equipment, what would you say?
[15 Marks]
- (b) Distinguish between single acting, offset and tandem disc harrows.
[15 Marks]

QUESTION 4

- (a) Briefly outline the operations involved in conventional tillage..
[10 marks]
- (b) Explain the reasons for the widespread use of mouldboard ploughs in Swaziland.
[10 marks]
- (c) Write short notes on the following:
i) One way ploughing; and
ii) Ploughing in lands.
[10 marks]