UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER

PROGRAMME: BSC AGRIC IV (CP, HORT& AEM) & BSC
AGRIC V (L&WM)

COURSE CODE: LUM 402

TITLE OF PAPER: IRRIGATION MANAGEMENT

TIME ALLOWED: TWO (2) HOURS

SPECIAL MATERIAL REQUIRED: NONE

INSTRUCTIONS: ANSWER QUESTION ONE AND ANY TWO
OTHER QUESTIONS.

DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN
GRANTED BY THE CHIEF INVIGILATOR

SECTION I: COMPULSORY QUESTION

QUESTION 1

(a) Describe one method for assessing potential evapo-transpiration in a given area (15 marks)

The following results were obtained from a uniformity test of a sprinkler irrigation system. The catch can contents are in mm and the letter S represents the position of a sprinkler.

S			S
80	70	68	74
78	66	68	70
52	56	54	64
74	60	56	86
80	70	64	86
S			S

The sprinkler spacing is 12 m x 12 m, the sprinkler pressure is 240 kPa and the set time is 12 hours.

Determine the uniformity coefficient (Christiansen's C.U.) and comment on the results (25 marks).

SECTION II: ANSWER TWO QUESTIONS FROM THIS SECTION

QUESTION 2

Describe how you would assess the uniformity of a sprinkler irrigation system.

(30 marks)

QUESTION 3

Discuss why it is important to consider salinity as a potential environmental threat in most irrigation systems. (30 marks)

QUESTION 4

Discuss the merits and demerits of any **four** irrigation methods used by commercial farms in Swaziland. (30 marks)