UNIVERSITY OF SWAZILAND DEPARTMENT OF GEOGRAPHY, ENVIRONMENTAL SCIENCE AND PLANNING

SUPPLEMENTARY EXAMINATION:

JULY, 2011

B.Sc. II

TITLE OF PAPER

WATER RESOURCES

COURSE NUMBER

GEP 228

TIME ALLOWED

THREE (3) HOURS

INSTRUCTIONS

SECTION A IS COMPULSORY

ANSWER ANY TWO QUESTIONS FROM

SECTION B

ILLUSTRATE YOUR ANSWERS WITH

APPROPRIATE DIAGRAMS

MARKS ALLOCATED

QUESTION 1 CARRIES 40 MARKS THE

OTHER QUESTIONS CARRY 30 MARKS

EACH

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GEP 228 WATER RESOURCES 2011 (July supplementary exam)

SECTION A: COMPULSORY QUESTION

Question 1

- (a) Explain the methods used in estimating the spatial average precipitation. (15 marks)
- (b) Fig. 1 shows a catchment with station precipitation values. Estimate the average precipitation of the catchment using the Thiesen Polygon method. (25 marks)

 (40 marks)

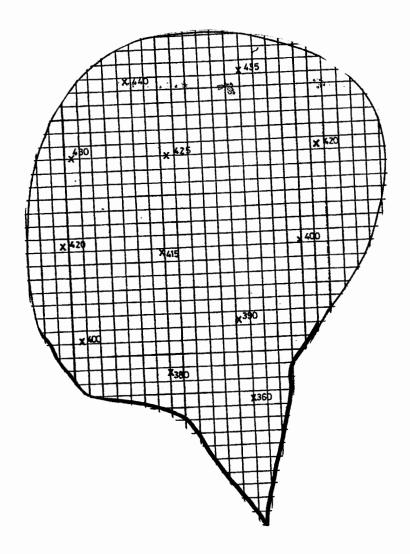


Figure 1 Hypothetical catchment area with station monthly precipitation values (one square is 1 square kilometre)

SECTION B: ANSWER ANY TWO QUESTIONS

Describe two methods of measuring discharge.

Question 2 (a) (b) (c)	Explain the components of the hydrologic cycle. Discuss why water is a renewable resource 'The hydrologic cycle is regarded as a water purifying mechanism Discuss.	(10 marks) (10 marks) 1'. (10 marks) (30 marks)
Question 3 Explain the factors that affect the rate of evaporation.		(30 marks)
Question 4 (a) Explain how you would go about in classifying the climate of Lavumisa. (15 marks) (b) Explain how climate affects the agricultural activities in Swaziland. (30 marks)		
Ouestion 5		` ,

(30 marks)