

UNIVERSITY OF SWAZILAND

DEPARTMENT OF GEORAPHY, ENVIRONMENTAL SCIENCE AND PLANNING

SUPPLEMENTARY EXAMINATION: JULY, 2017

BSc and BSc Ed. IV

TITLE OF PAPER : WATER RESOURCES PLANNING

COURSE NUMBER : GEP421

TIME ALLOWED : THREE (3) HOURS

**INSTRUCTIONS : ANSWER ONE QUESTION FROM SECTION A
ANSWER TWO QUESTIONS FROM SECTION B
ILLUSTRATE YOUR ANSWERS WITH
APPROPRIATE DIAGRAMS**

**MARKS ALLOCATED : QUESTION ONE CARRIES 40 MARKS
OTHER QUESTIONS CARRY 30 MARKS EACH**

**THIS PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS BEEN GRANTED
BY THE INVIGILATOR**

SECTION A: COMPULSORY QUESTION

QUESTION1

- a) Explain the factors affecting the water use in a city of a country in sub-Saharan Africa.
(10 marks)
 - b) The current population of Manzini city in Swaziland is estimated at about 120,000 people. The water consumption per capita per day is estimated to be about 250 litres. Estimate the daily water demand for year 2050 if the population growth rate is 2.9% per year.
(15 marks)
 - c) Discuss how you would identify the water sources to meet the water demand in (b) above
(15 marks)
- (40 Marks)**

SECTION B: ANSWER ANY TWO QUESTIONS

QUESTION2

Discuss the stages of planning in the sector of water resources. **(30 Marks)**

QUESTION 3

Discuss the importance of water law of a country. **(30 Marks)**

QUESTION 4

Discuss how the water requirement of a given crop is estimated. **(30 Marks)**

QUESTION 5

'The Lubovane reservoir useful life is threatened by high sediment inflow'. Discuss how this problem could be solved. **(30 Marks)**