

UNIVERSITY OF SWAZILAND

Faculty of Health Sciences

DEGREE IN ENVIRONMENTAL MANAGEMENT AND WATER RESOURCES

MAIN EXAMINATION PAPER 2014

TITLE OF PAPER : Water Resources Management II

COURSE CODE : EHM 321

DURATION : 2 HOURS

MARKS : 100 MARK

INSTRUCTIONS :

- READ THE QUESTIONS & INSTRUCTIONS CAREFULLY
- ANSWER ANY FOUR QUESTIONS
- EACH QUESTION CARRIES 25 MARKS
- WRITE NEATLY & CLEARLY
- NO PAPER SHOULD BE BROUGHT INTO NOR OUT OF THE EXAMINATION ROOM
- BEGIN EACH QUESTION ON A SEPARATE SHEET OF PAPER

DO NOT OPEN THIS QUESTION PAPER UNTIL PERMISSION IS GRANTED BY THE INVIGILATOR

Question One

- a. What is river basin management? [5 marks]
- b. The management of the development of water resources in a river basin is a complex activity and it comprises the full range of activities. Explain four activities that are paramount in the development of water resources for irrigation purposes. [20 marks]

Question two

Briefly describe the five dimensions of integrated water resources management. [25 marks]

Question three

- a. Briefly describe how would you use the following approaches in water demand management?
- i. Education
 - ii. Water pricing
 - iii. Politics
 - iv. Practices,
 - v. Policing
- [20 marks]
- a) What does sustainable use of water resources mean? [5 marks]

Question four

- a. What are the components of a robust plan and what are the advantages of cyclic planning method over linear planning? [10 marks]
- b. Give an estimate of the amount of "virtual" water that is equivalent with the production of 70kg of maize **and** if a ton of maize was exported to United States of America how much virtual water exported? [10 Marks]
- c. Describe two consumptive uses and two non-consumptive water uses. [5 marks]

Question five

- a. What does closing a cycle mean in water resources management [5 marks]
- b. Describe two examples that demonstrate a closed cycle and one that shows an open cycle of water resource use and nutrients involvement. [20 marks]