

**UNIVERSITY OF SWAZILAND
Faculty of Health Sciences**

DEGREE IN ENVIRONMENTAL HEALTH

MAIN EXAMINATION PAPER MAY 2017

TITLE OF PAPER : WATER RESOURCES MANAGEMENT

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**
- THIS EXAMINATION CONSIST OF THREE PRINTED SHEETS INCLUDING THE COVER PAGE / INSTRUCTION PAGE**

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

Question one

- a) What do you understand about management of water resources? **(5 marks)**
- b) There are cross-cutting issues that cut across the decision process in integrated water resources management. Describe in full four of cross-cutting conditions which have an impact on sustainable development and are desirable for socio-economic development. **(20 Marks)**

Question two

- a) Who are the key actors in capacity building for river basin management in Swaziland? **(5 marks)**
- b) Describe four objectives of river basin management. **(20 marks)**

Question three

- a) Fully describe the philosophy behind sustainable development as it relates to water resources management? **(10 marks)**
- b) There are numerous ways to jeopardize the future use of water. Describe four situations by which water resources use can be rendered unsustainable. **(15 marks)**

Question four

- a) Explain the five Dublin principles as referred to water resources management. **(10 marks)**
- b) Fully describe the philosophy guiding planning in water resources management. **(15 Marks)**

Question five

- a) Give an estimate of the amount of “virtual” water that is equivalent with the production of 50kg of maize. **(5 marks)**
- b) If a ton of maize was exported to South Africa how much virtual water was exported? **(5marks)**
- c) What is the difference between consumptive and non-consumptive use of water in water resources management? Describe two examples in each. **(5 Marks)**
- d) What does closing a cycle mean in water resources management? **(2 Marks.)**
- e) What advantage is cycle closing in water management? **(8 Marks.)**