



**UNIVERSITY OF SWAZILAND**  
**Faculty of Health Sciences**

**DEGREE IN ENVIRONMENTAL HEALTH**

**MAIN EXAMINATION PAPER MAY 2019**

TITLE OF PAPER : WATER RESOURCES MANAGEMENT I  
COURSE CODE : EHS 342  
DURATION : 2 HOURS  
MARKS : 100  
INSTRUCTIONS : READ THE QUESTIONS & INSTRUCTIONS CAREFULLY  
: ANSWER ANY FOUR QUESTIONS  
: EACH QUESTION CARRY 25 MARKS  
: WRITE NEATLY AND CLEARLY  
: NO PAPER SHOULD BE BROUGHT INTO 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**

Describe the five principles of water resources management as outlined by the Dublin declaration (1992) on water and sustainable development. **[25 marks]**

**Question two**

1. what is sustainable water resources development **[5 marks]**
  
2. Explain by giving examples five reasons that makes water an important resource above all other natural resources in Eswatini. **[20 marks]**

**Total [25 marks]**

**Question three**

1. Give an estimate of the amount of “virtual” water that is equivalent with the production of 50kg of maize and if a ton of maize was exported to South Africa how much virtual water is exported? **[5 Marks]**
  
2. Describe five dimensions of water resources management **[20 marks]**

**Question four**

1. Briefly describe how would you use the following approaches in water demand management for water conservation and sustainable development? **[10 marks]**
  - a. Education
  - b. Water pricing
  - c. Politics
  - d. Practices
  - e. Policing
  
2. Describe the procedure that must be followed in water resources management to avoid conflicts between water users in Eswatini and neighbouring countries. **[15 marks]**

**Question five**

1. Explain five major causes of environmental water shortage for ecosystem interaction in Eswatini. **[25 marks]**