



**UNIVERSITY OF SWAZILAND**  
**Faculty of Health Sciences**  
**Department of Environmental Health Science**

**BSc. IN WATER RESOURCES AND ENVIRONMENTAL  
HEALTH MANAGEMENT**

**MAIN EXAMINATION PAPER, MAY 2019**

**TITLE OF PAPER : WATER HARVESTING**

**COURSE CODE : EHS 350**

**DURATION : 2 HOURS**

**MARKS : 100**

**INSTRUCTIONS :**

- READ THE QUESTIONS & INSTRUCTIONS CAREFULLY**
- ANSWER ANY FOUR QUESTIONS**
- EACH QUESTION CARRIES 25 MARKS.**
- WRITE NEATLY & CLEARLY**
- NO PAPER SHOULD BE BROUGHT INTO OR 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 1**

- a) Discuss Water Harvesting? (10)
- b) What are the different structures used for Water Harvesting? (15)

**TOTAL 25 MARKS**

**Question 2**

Water Harvesting can be classified and categorized into four distinguished groups!!

Briefly write notes on the following categories of Water Harvesting:

- a) Macro-catchment water harvesting (15)
- b) Micro-catchment water harvesting (10)

**TOTAL 25 MARKS**

**Question 3**

- a) Is rain water harvested on rooftops safe for drinking, explain your answer (10)
- b) Why should rain Water Harvesting be implemented? (15)

**TOTAL 25 MARKS**

**Question 4**

The basic rule for water balance and sizing in any water harvesting system is that the volume of water that can be captured and stored (**supply**) must equal or exceed the volume used (**demand**),

- a) How can annual rainfall distribution be used in water balancing? (15)
- b) What are the components of sizing the storage tanks? (10)

**TOTAL 25 MARKS**

**Question 5**

A Water Harvesting project cannot be implemented without budgeting and cost estimation.

Explain the costs involved in Rain Water Harvesting?

**25 MARKS**