

**UNIVERSITY OF SWAZILAND  
DEPARTMENT OF GEOGRAPHY, ENVIRONMENTAL SCIENCE AND  
PLANNING**

**MAIN EXAMINATION:                      MAY, 2013  
B.Sc. III**

**TITLE OF PAPER                      :              DRAINAGE BASIN STUDIES**

**COURSE NUMBER                      :              GEP 321**

**TIME ALLOWED                      :              THREE (3) HOURS**

**INSTRUCTIONS                      :              QUESTION ONE IS COMPULSORY  
ANSWER ANY TWO QUESTIONS FROM  
SECTION B  
ILLUSTRATE YOUR ANSWERS WITH  
APPROPRIATE DIAGRAMS WHERE  
NECESSARY**

**MARKS ALLOCATED                      :              QUESTION ONE CARRIES 40 MARKS  
OTHER QUESTIONS CARRY 30 MARKS  
EACH  
TOTAL MARKS: 100**

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

**SECTION A: COMPULSORY QUESTION**

**QUESTION 1:**

- (c) Describe the main drainage basins of Swaziland in their hydro meteorological context. (20 marks)
- (d) Discuss the importance of the main drainage basins in Swaziland from a resource management perspective. (20 marks)
- (40 marks)**

**SECTION B: ANSWER ANY TWO QUESTIONS**

**QUESTION 2:**

Discuss the importance of stakeholder participation in drainage basin planning (30 marks)

**QUESTION 3:**

Explain the drainage system variables that influence the shaping of landforms. (30 marks)

**QUESTION 4:**

Discuss the factors that influence the sediment yield of a drainage basin, highlighting the problems posed by sediment discharge. (30 marks)

**QUESTION 5:**

- (a) Discuss why rain storms of similar characteristics falling on a catchment seldom produce same amount of sediment. (15 marks)
- (b) Explain the different types of instream water requirements. (15 marks)
- (30 marks)**