

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

**FINAL EXAMINATION :            MAY 2007  
B.Sc. III**

**TITLE OF PAPER                                :        DRAINAGE BASIN STUDIES**

**COURSE NUMBER                                :        GEP 321**

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

**INSTRUCTIONS                                 :        SECTION A IS COMPULSORY  
ANSWER ANY TWO QUESTIONS FROM  
SECTION B  
ILLUSTRATE YOUR ANSWERS WITH  
APPROPRIATE DIAGRAMS**

**MARKS ALLOCATED                                :        QUESTION 1 CARRIES 40 MARKS  
THE OTHER QUESTIONS CARRY 30  
MARKS EACH**

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

**SECTION A:            COMPULSORY QUESTION**

**Question 1:**

Discuss the advantages of drainage basin based water resources planning. **(40 marks)**

**SECTION B:            ANSWER ANY TWO QUESTIONS**

**Question 2:**

Discuss the importance of stakeholder participation in drainage basin planning.

**(30 marks)**

**Question 3:**

(a)     Describe how sediment is transported in a stream. **(15 marks)**

(b)     Explain 'Incipient motion' of a sediment particle. **(15 marks)**

**(30 marks)**

**Question 4:**

Explain how water conservation can be effected in a drainage basin. **(30 marks)**

**Question 5:**

Describe the evolutionary development of a drainage basin stream network. **(30 marks)**