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

**MAIN EXAMINATION:                    MAY, 2014**

**B.Sc. III**

**TITLE OF PAPER                    :**     **DRAINAGE BASIN STUDIES**

**COURSE NUMBER                    :**     **GEP 321**

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

**INSTRUCTIONS                    :**     **SECTION A IS COMPULSORY**  
**ANSWER 2 QUESTIONS FROM SECTION B**  
**ILLUSTRATE YOUR ANSWERS WITH**  
**APPROPRIATE DIAGRAMS**

**MARKS ALLOCATED                    :**     **QUESTION ONE CARRIES 40 MARKS.**  
**THE REST OF THE QUESTIONS CARRY 30**  
**MARKS EACH**

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

(GEP 321, May 2014)

**SECTION A: COMPULSORY QUESTION**

**Question 1**

- (a) 'A drainage basin is considered as a hydrologic, geomorphologic and as well as a planning unit'. Discuss. (20 marks)
- (b) Discuss the parts of a fluvial system and the role of the system variables in the shaping of a drainage basin. (20 marks)
- (40 Marks)**

**SECTION B: ANSWER ANY TWO QUESTIONS**

**Question 2**

'Swaziland has plenty of water and yet it suffers from water scarcity problems'. Discuss the validity of the statement. (30 Marks)

**Question 3**

Describe the major drainage basins in Swaziland and their influence on socio-economic development.

**(30 Marks)**

**Question 4**

- (a) Explain why planting of trees in a drainage basin can lead to a decrease in the river flows. (10 marks)
- (b) Describe the approaches that are used in drainage basin water conservation. (20 marks)
- (30 Marks)**

**Question 5**

Discuss the advantages of drainage basin based water resources planning. (30 Marks)