

UNIVERSITY OF SWAZILAND

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FINAL EXAMINATION PAPER: MAY, 2005
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 QUESTION S FROM
SECTION B
ILLUSTRATE YOUR ANSWERS WITH
APPROPRIATE DIAGRAMS AND EXAMPLES

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

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QUESTION 1:

'A drainage basin is regarded as a hydrologic unit, a geomorphologic unit as well as a planning unit.' Discuss the validity of this statement. (40 marks)

SECTION B: ANSWER ANY TWO QUESTIONS

QUESTION 2:

- (a) Describe how sediment is transported in a stream. (15 marks)
- (b) Explain 'Incipient motion' of a sediment particle. (15 marks)

QUESTION 3:

Explain how land use changes affect the runoff in a catchment. (30 marks)

QUESTION 4:

Give an account of the methods used to evaluate the water resource in a catchment. (30 marks)

QUESTION 5:

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