

UNIVERSITY OF ESWATINI
DEPARTMENT OF GEOGRAPHY, ENVIRONMENTAL SCIENCE AND
PLANNING

RE-SIT EXAMINATION-JANUARY 2020

B.A., BASS, B.Ed. & B.Sc.

TITLE OF PAPER: HAZARDS, RISKS AND VULNERABILITY
ANALYSES

COURSE CODE: GEP419

TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS:

- 1. ANSWER THREE (3) QUESTIONS**
- 2. QUESTION 1 IS COMPULSORY**
- 3. ANSWER ANY TWO QUESTIONS FROM SECTION B**
- 4. WHERE APPROPRIATE, ILLUSTRATE YOUR ANSWER WITH DIAGRAMS AND EXAMPLES**

MARKS ALLOCATION: QUESTION ONE (1) CARRIES 40 MARKS THE REST OF
THE QUESTIONS CARRY 30 MARKS EACH.

THIS QUESTION PAPER SHOULD NOT BE OPENED UNTIL PERMISSION HAS
BEEN GRANTED BY THE INVIGILATOR

GEP419: HAZARDS, RISKS AND VULNERABILITY ANALYSES – JANUARY 2020

SECTION A: COMPULSORY

QUESTION 1

- a) Explain the following terms as used in risk assessment:
- i) Vulnerability
 - ii) Risk characterisation
 - iii) Dose-response assessment
 - iv) Risk transfer
 - v) Social vulnerability
- (10 marks)
- b) Using examples, explain the difference between a hazard and a risk. (5 marks)
- c) Describe extrinsic and intrinsic vulnerability and show how these considerations are important for species survival. (15 marks)
- d) Explain the following:
- i) Why is environmental risk management important? (4 marks)
 - ii) What are the different ways in which communities may deal with risk? (6 marks)
- (40 Marks)**

SECTION B: ANSWER ANY TWO QUESTIONS FROM THIS SECTION

QUESTION 2

Discuss the measures that should be taken to prevent an adverse event in a community dwelling near a pressurised storage tank containing liquified gas. Identify the different areas of layers of protection analysis (LOPA) you would use to prevent an adverse effect.

(30 Marks)

QUESTION 3

- a) Describe differential vulnerability and explain how it can be used to prioritize communities at risk. (15 marks)
- b) Explain the difference between a quantitative risk assessment and a qualitative risk assessment. (15 marks)

(30 Marks)

QUESTION 4

Discuss the steps involved in a disaster management cycle and state the importance of stakeholder networks during emergency situations. **(30 Marks)**

QUESTION 5

Critically discuss why disaster and emergency management in urban areas are more important compared to rural areas. **(30 Marks)**