

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

THIRD YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF ENVIRONMENTAL SCIENCES

ENSC 301: ENVIRONMENTAL RISK ASSESSMENT

STREAMS: B.Sc. ENSC Y3S1

TIME: 2 HOURS

DAY/DATE: FRIDAY 8/12/2017

11.30 A.M - 1.30 P.M.

INSTRUCTIONS:

- Answer ALL Questions in Section A and any other TWO Questions in Section B
- Do not write on the question paper

SECTION A: [30 MARKS]

QUESTION ONE

Differentiate the following terms as used in environmental risk assessment. [4 Marks]

- (a) Hazard and risk
- (b) Inherent risk and residual risk

QUESTION TWO

Illustrate the Source-Pathway-Receptor approach of risk assessment using an underground oil tank and an example. [4 Marks]

QUESTION THREE

Explain the importance of conducting environmental risk assessment. [6 Marks]

QUESTION FOUR

Explain four key principles that guide decision making in environmental risk assessment. [6 Marks]

QUESTION FIVE

Write short notes on risk prioritization. [4 Marks]

QUESTION SIX

Briefly explain six factors that influence risk acceptance. [6 Marks]

SECTION B [40 MARKS]

QUESTION SEVEN

- (a) Explain the toxicological process of chemicals once they enter the human body. [10 Marks]
- (b) Discuss the factors that influence the reaction of an organism to a toxic substance. [10 Marks]

QUESTION EIGHT

Suppose you are contracted to carry out an environmental risk assessment of a proposed landfill.

- (a) Describe the procedure that you will follow while carrying out the assessment. [12 Marks]
- (b) Explain eight reasons as to why it will be important for you to involve the public in the assessment. [8 Marks]

QUESTION NINE

Risk communication is an integral component of risk analysis.

- (a) Discuss the elements of an effective risk communication. [12 Marks]
- (b) Explain eight principles that should be observed in risk communication. [8 Marks]

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