



UNIVERSITY OF MINES AND TECHNOLOGY, TARKWA
FIRST SEMESTER EXAMINATIONS, NOV/DEC. 2018

COURSE NO: ES 375
COURSE NAME: LAND REHABILITATION
CLASS: ES III

TIME: 2 HOURS

Name: _____ Index Number: _____

ANSWER ALL QUESTIONS (60MARKS)

QUESTION ONE (20 MARKS)

- (a) What is a spoil? (2 marks)
- (b) Differentiate between mine spoil and mine tailings. (4 marks)
- (c) Briefly explain the *physical*, *chemical* and *biological* constraints that could ruin the revegetation attempt of a mine waste site either partially or completely. (10 marks)
- (d) Mention four (4) key strategies that can be used to improve upon these constraints associated with mine wastes in an attempt to revegetate them. (4 marks)

QUESTION TWO (20 MARKS)

- (a) State and briefly explain four (4) categories of rehabilitation programmes. (6 marks)
- (b) Explain progressive rehabilitation and its importance in the rehabilitation planning. (8 marks)
- (c) Explain why complete restoration of the pre-disturbance state during rehabilitation programme is usually impossible. (3 marks)
- (d) Explain the following terms used in ecosystem degradation.
- (i) Alternate Steady-States (1.5 marks)
 - (ii) Threshold of Irreversibility (1.5 marks)

QUESTION THREE (20 MARKS)

- (a) Enumerate four (4) factors that will influence the strategic decision of a particular mine site rehabilitation programme. (2 marks)
- (b) Explain the major factors that need to be considered when it comes to soil rehabilitation. (5 marks)

- (c) List and explain in “two sentences” all the procedures that must be followed for successful rehabilitation programme. **(10 marks)**
- (d) Explain why topsoil is the most essential factor in successful rehabilitation programme during the period of initial plant growth. **(3 marks)**

Examiners: Dr S. Fosu/Dr I. Quaiocoe