BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF AGRICULTURE AND ENVIRONMENTAL SCIENCE

DEPARTMENT: NATURAL RESOURCES

PROGRAMME: BSc NATURAL RESOURCES MANAGEMENT

COURSE CODE: NR[redacted]403: LAND RECLAMATION AND REVEGETATION (2)

DURATION: 2 HOURS **TOTAL MARKS: 70**

E- JUN 2023

INSTRUCTIONS
Answer **THREE** questions out of the following five questions. You must answer question **ONE** from **SECTION A** and any **TWO** questions from **SECTION B**.

SECTION A (COMPULSORY)

1. (a) Explain the following terms:
   (i) Incineration **[2 Marks]**
   (ii) In-situ vitrification. **[3 Marks]**
   (iii) Acid mine drainage **[5 marks]**
   (b) Explain different methods for restoring soil fertility. **[10 Marks]**
   (c) Discuss importance of top soil in the revegetation of derelict lands. **[10 Marks]**

SECTION B

2. Outline the steps involved in the development of a successful land reclamation scheme. **[20 Marks]**

3. (a) Explore the importance of using native species in rehabilitating degraded landscapes. **[10 Marks]**
   (b) Outline the criteria that must be considered in selecting the plants to be utilized in the final vegetation programme. **[10 Marks]**

3. Discuss the principles, advantages and disadvantages of the four revegetation philosophies. **[20 Marks]**

4. Explain how the following lands can be reclaimed:
   (a) poor soil pH **[4 Marks]**
   (b) waterlogged areas **[4 Marks]**
   (c) saline soils **[4 Marks]**
   (d) landscape with gullies **[4 Marks]**
   (e) mine waste. **[4 Marks]**

5. 'The success in revegetation rests upon studies of soil physics and its bio-chemical processes,' Discuss. **[20 Marks]**

END OF PAPER