

**BINDURA UNIVERSITY OF SCIENCE EDUCATION**

**BACHELOR OF SCIENCE DEGREE**

**NR 120 (1)**

**DEPARTMENT OF NATURAL RESOURCES**

**BSc PART I: Examination**

**PRINCIPLES OF ECOLOGY AND BIODIVERSITY**

**2 HOURS (70 MARKS)**

**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) Describe the key characteristics of the following biomes:
  - i. Grassland [5 MARKS]
  - ii. Desert [5 MARKS]
- (b) Discuss the possible effects of climate change on biological diversity. [20 MARKS]

**SECTION B**

2. Distinguish between equilibrium and disequilibrium paradigms of plant succession. [20 MARKS]
3. Describe how you would estimate woody and herbaceous species diversity in an indigenous woodland. [20 MARKS]
4. (a) Use a clearly labelled diagram to illustrate the Nitrogen cycle. [5 MARKS]  
(b) Discuss the impacts of human activities on the Nitrogen cycle. [15 MARKS]
5. Write notes on the following terms:
  - (a) Niche [5 MARKS]
  - (b) Symbiosis [5 MARKS]
  - (c) Intraspecific competition [5 MARKS]
  - (d) Gause's competitive exclusion principle [5 MARKS]

**END OF PAPER**