

BINDURA UNIVERSITY OF SCIENCE EDUCATION

BACHELOR OF SCIENCE DEGREE

NR 120(3)

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 following models of ecological succession:

i. Facilitation model. [5 MARKS]

ii. Inhibition model. [5 MARKS]

(b) Using relevant examples, explain the concepts of mutualism and parasitism in ecology. [10 MARKS]

(c) With the aid of diagrams, explain the following population growth models:

i. Exponential [5 MARKS]

ii. Logistic [5 MARKS]

SECTION B

2. Outline the major characteristics of the following biomes:

(a) Grassland [10 MARKS]

(b) Desert [10 MARKS]

3. (a) Use a clearly labelled diagram to illustrate the carbon cycle. [7 MARKS]

(b) Examine the negative impacts of human activities on the carbon cycle. [13 MARKS]

4. Summarize the linear progression of a successional change as put forward by Clements (1916). [20 MARKS]

5. Describe how you would estimate woody and herbaceous species diversity in an indigenous woodland. [20 MARKS]

END OF PAPER