

BINDURA UNIVERSITY OF SCIENCE EDUCATION
FACULTY OF AGRICULTURE AND ENVIRONMENTAL SCIENCES
DEPARTMENT: NATURAL RESOURCES
COURSE CODE NRF405: FOREST BIOTECHNOLOGY

DURATION: 2 HOURS

TOTAL MARKS: 70

OCT 2024

INSTRUCTIONS TO CANDIDATES

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

1. Briefly explain the following terms:
 - a) Watson-Crick base pairs, [7 Marks]
 - b) Polymerase chain reaction, [8 Marks]
 - c) Transcription mechanism, [8 Marks]
 - d) Genetic code. [7 Marks]

SECTION B

2. Citing examples, explain Mendel's principles of inheritance. [20 Marks]
3. Using a Pannet square, explain the following Mendelian genetics' terms:
 - a) Monohybrid test cross with a homozygous recessive genotype, [10 Marks]
 - b) Dihybrid test cross with a homozygous recessive genotype. [10 Marks]
4. Write short notes on the following terms:
 - a) Gene discovery, [5 Marks]
 - b) Genetic mapping, [5 Marks]
 - c) Altered native gene function, [5 Marks]
 - d) Mutagenesis. [5 Marks]
5. Discuss why there are no commercialized genetically engineered forest trees despite recent advances in forest biotechnology. [20 Marks]

END OF PAPER

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AG403**

**Department of Agricultural Economics, Education and Extension
BSC Agricultural Sciences Part 4 Examination
Agricultural Marketing**

3 hours (100 Marks)

INSTRUCTIONS

Answer any **FOUR** questions. Each question carries **25 marks**.

OCT 2024

1. (a) Explain unique characteristics of Agricultural Marketing. [10marks]
(b) Marketing mix explain how the organization has to communicate with the customer through the strategic window. Identify the elements of marketing mix and how they are related to each other. [15marks]
- 2 (a) The marketing process must add "utility" to the products consumers want. Define the term "utility". [2marks]
(b) Explain some utilities to be received from purchasing an agricultural product. [8marks]
(c) Discuss the importance of Agricultural marketing in the development of Smallholder sector of Zimbabwe. [15marks]
3. Explain the following terms as they are used in Agricultural marketing
 - a) Skimming [5marks]
 - b) Penetration [5marks]
 - (c) Loss leader [5marks]
 - (d) Cost plus [5marks]
 - (e) Promotion [5marks]
4. Explain the differences between Value chain marketing and traditional marketing system. [25marks]
5. (a) Explain the phrase marketing communications. [5marks]
(b) Explain five objectives of marketing communication in Agricultural Marketing. [20marks]
6. Explain the problems associated with stabilizing agricultural products prices. [25marks]

END OF PAPER