

BINDURA UNIVERSITY OF SCIENCE EDUCATION

DEPARTMENT OF ENVIRONMENTAL SCIENCE

JUN 2025

MSc OHSEM Part I Examination

**APPLIED ENVIRONMENTAL AND NATURAL RESOURCES ECONOMICS
MOHS 511**

3 HOURS

INSTRUCTIONS

Answer QUESTION ONE from SECTION A and any other two questions from SECTION B.

Question one carries 50 Marks and the rest 25 Marks each.

SECTION A (COMPULSORY)

- (a) Explain the following terms:
 - i. Efficiency [3 Marks]
 - ii. Optimality [3 Marks]
- (b) Explain the institutional arrangements that are required for the market to optimally and efficiently allocate resources. [10 Marks]
- (c) Wilkinson (1973) argued that "Natural imbalances are the source development. Such imbalances may arise from natural or human causes". Explain any four adaptive mechanisms that society may adopt in the face of natural imbalances [8 Marks]
- (c) Explain the different types of economic values. [16 Marks]
- (d) Explain the following hypotheses about trade-environment linkages:
 - (i) Factor endowment hypothesis. [5 Marks]
 - (ii) Pollution haven hypothesis. [5 Marks]

SECTION B

- 2. (a) Explain the main differences between weak and strong sustainability. [12 Marks]
- (b) Justify the strong sustainability world view in natural resources management. [9 Marks]
- (c) With the aid of an equation, explain the efficient provision of a public good. [6 Marks]

- 3.(a) Explain why policy makers may have to set targets within a network of obligations and pressures from various national governments and coalitions. [5 Marks]
- (b) Explain why the optimal level of pollution will not be the same for all parts of a country. [5Marks]
- (c) Formulate an IPAT identity for the use of gasoline. [8 Marks]
- (d) Explain the concept of total economic value. [7 Marks]
4. (a) Categorise pollutants using two criteria. [15 Marks]
- (b) Explain why pollution targets are rarely, if ever, set entirely on purely economic grounds. [10 Marks]
5. (a) Justify the need for the valuation of natural resources. [5 Marks]
- (b) Discuss the economic causes of environmental problems. [20 Marks]

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End of paper