



MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS

2022/2023 ACADEMIC YEAR

FOURTHYEAR SECOND SEMESTER

SCHOOL OF BUSINESS & ECONOMICS

BACHELOR OF SCIENCE IN ECONOMICS

COURSE CODE: ECO 4206

**COURSE TITLE: ENVIRONMENTAL
ECONOMICS**

DATE: 20/4/ 2023

TIME: 1100-1300 HRS

INSTRUCTIONS TO CANDIDATES

Answer Question **ONE** and any other **THREE** questions

*This paper consists of **three** printed pages. Please turn over.*

QUESTION ONE

- (a) Write brief notes on the following:
- i. Public good. **(5 marks)**
 - ii. Externality. **(5 marks)**
 - iii. Imperfect information. **(3 marks)**
 - iv. Government failure. **(3marks)**
- (b) Discuss how private bargaining between two parties would be used to correct externality. **(9 marks)**

QUESTION TWO

- a) Discuss the property rights regime in environmental management. **(8 marks)**
- b) Explain the working of transferrable tradeable permits in controlling pollution. **(7 marks)**

QUESTION THREE

- a) Discuss the economic efficiency conditions in surface and ground water supply. **(7 marks)**
- b) Explain the water pricing approaches. **(8 marks)**

QUESTION FOUR

- a) Discuss the relationship between environmental improvement and economic development. **(6 marks)**
- b) If damage function is expressed as: $D = M^2$, and the benefit function is given by: $B = 96M - 0.2M^2$, what is the efficient level of pollution and net benefit? Indicate that emissions below or above the efficiency level reduce net benefits. **(9 marks)**

QUESTION FIVE

- a) Consider two pollution sources (X and Y) that have the following marginal costs of pollution abatement: $MCA_x = 1.5A$ and $MCA_y = 0.5 A$, where A is the level of pollution abatement. Suppose a uniform emission charge of \$2 is levied on both sources, calculate the efficient level of pollution abatement and the corresponding cost of pollution abatement for each source. **(8 marks)**
- b) Consider an emission standard that requires the two sources to reduce pollution by an amount equal to one half the total amount of abatement achieved with the uniform emission charge. Compare the total cost of abatement using emission charge and emission standard and provide a conclusion for your result. **(7 marks)**

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