THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

A. M. E. C. E. A

MAIN EXAMINATION

MAY – AUGUST 2021

FACULTY OF ARTS AND SOCIAL SCIENCES

DEPARTMENT OF ECONOMICS

REGULAR PROGRAMME

ECO 802: MICROECONOMIC THEORY II

Date: AUGUST 2021	Duration: 3 Hours
INSTRUCTIONS: Answer any FOUR Questions	

Q1.

a. Explain briefly the categories of resources allocation **(8 marks)**.

b. Consider two agents faced with consumption of two goods: x_i, a private good and G, a public good. w_i is endowments of agent i for the private good, and wants to contribute g_i, to the public good. Required to write agent i's

    i.   Amount of private consumption **(1 mark)**

    ii.   Utility function **(1 mark)**

c. Using suitable illustration, explain briefly private provision of public good

                                                      (3 Marks).

d. Explain briefly a voting equilibrium concept **(1 mark)**.

e. Using example, explain briefly the concept of Pigovian taxes as a solution to the externalities problem **(1 mark)**.

Q2.

a. Distinguish briefly between cooperative and non-cooperative games giving example in each case of with and without conflict **(8 marks)**.

b. Distinguish between pure and mixed strategies **(2 marks)**.

c. Distinguish briefly between simultaneous-move games and sequential-move games **(2 marks)**.

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d. Giving suitable example, explain briefly a game of asymmetric information **(3 marks).**

Q3.
a. Distinguish briefly among the various models of oligopoly behavior **(4 marks).**
b. Two firms produce a homogeneous product with output levels, y_1 and y_2. Firm i, has a cost function given by: $c_i(y_i)$, for i = 1, 2. Required to:
   i. Write expression of aggregate output, Y **(1 mark).**
   ii. Write expression of market price associated with the aggregate output **(1 mark).**
   iii. Write expression of Firm 1's maximization problem **(1 mark).**
   iv. Write expression of a Cournot-Nash equilibrium. Explain briefly **(1 mark).**
   v. Assuming an interior optimum for each Firm, write expressions of the two FOCs **(2 marks).**
   vi. Write expressions of the two reaction curves **(2 Marks).**
c. Write the expression used as an index of product differentiation. Explain briefly (1 mark).
d. At zero costs, write the maximizing expression for Firm 1, when it is a:
   - Cournot competitor **(1 mark).**
   - Bertrand competitor **(1 mark).**

Q4.
a. Using suitable examples, explain the concept of moral hazard and methods to reduce moral hazard **(7 marks).**
b. In the principal-agent problem, explain briefly the following:
   i. Constraints facing the agent **(3 marks).**
   ii. Environments facing the principal **(3 marks)**.
c. Distinguish between participation constraint and incentive compatibility constraint **(3 marks)**.

Q5.
a. Two firms produce a homogeneous product with constant marginal costs of c_1 and c_2 and face a market demand curve of D(p). Assume that $c_2 > c_1$. Write the expression of the demand curve facing Firm 1. Explain briefly **(4 marks).**
b. Explain briefly a real life application of the Bertrand model **(3 marks).**
c. Explain briefly the concept of the Prisoner's Dilemma and its applications in real life situations **(4 marks)**.
d. Distinguish clearly between private goods and public goods **(4 marks).**

END

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