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**KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**UNIVERSITY EXAMINATION, 2022/2023 ACADEMIC YEAR**  
**FOURTH YEAR, SECOND SEMESTER EXAMINATION**  
**FOR THE DEGREE OF BACHELOR OF SCIENCE**  
**(BUSINESS ADMINISTRATION)**

Date: 13<sup>th</sup> April, 2022  
Time: 11.30am – 1.30pm

**KFI 404 – PUBLIC FINANCE**

**INSTRUCTIONS TO CANDIDATES**

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**ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS**

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**QUESTION ONE (30 MARKS)**

- a) Jennifer and Joe are neighbors. Jennifer grows crops, and Joe raises cows. If there is no intervention, the cows will eat some of Jennifer's crops. The marginal benefits to Joe of holding the cows are given by  $500 - 2Q$  with  $Q$  being the number of cows. The marginal private costs are constant at Kshs 100. The marginal damage to Jennifer is Kshs 50.
- i) How many cows will Joe hold if he maximizes his profit?  
(5 marks)
  - ii) What would be the socially optimal number of cows?  
(3 marks)
  - iii) What would be the optimal Pigouvian tax rate?  
(2 marks)
  - iv) Instead of introducing such a tax, a fence could be built around Joe's land for Kshs  $X$ , eliminating the externality. What is the maximum amount of money Joe would be willing to pay for such a fence?  
(4 marks)
- b) Using relevant examples differentiate between the following pair of terms:
- i) Congestible and impure goods.  
(3 marks)
  - ii) Direct and indirect benefits.  
(3 marks)
  - iii) Non-rivalness and non-excludability.  
(3 marks)
- c) The goal of public finance is to understand the proper role of the government in the economy. Explain reasons why government intervenes in the economy.  
(7 marks)

### **QUESTION TWO (20 MARKS)**

- a) Explain the determinants of the public sector borrowing requirement in Kenya.  
(8 marks)
- b) You have been hired as a consultant on public finance issues by your county government. One of your major tasks is to advise the county executives on how to contain the public expenditure. Carefully explain four canons of public expenditure; you would apply in carrying out the assignment.  
(8 marks)
- c) State four arguments in the favor of reducing the size of a country public sector.  
(4 marks)

### **QUESTION THREE (20 MARKS)**

- a) Explain using a diagram how the demand for pure public good is derived?  
(10 marks)
- b) Define the Coase theorem and clearly outline the conditions in which the theorem's hold?  
(10 marks)

### **QUESTION FOUR (20 MARKS)**

- a) Consider a situation when the producer is a monopolist. Assume that the market demand is  $P = 20 - q$ . The monopolist's marginal cost is equal to zero and the government imposes a unit tax on the producer equal to 10. How is the price level affected by this tax?  
(10 marks)
- b) Mau forest is facing the possibility of depletion as a common good. Explain the options that the government could use to ensure proper management of the forest.  
(10 marks)

### **QUESTION FIVE (20 MARKS)**

- a) Outline clearly a situation where the free rider problem is likely to occur. Give two possible solutions to this problem.  
(10 marks)
- b) With the help of a graph, explain using an example from the area of public economics, the concept of negative consumption externality.  
(10 marks)