



AFRICAN ECONOMIC RESEARCH CONSORTIUM
Collaborative Masters Programme in Economics for Anglophone Africa
(Except Nigeria)

JOINT FACILITY FOR ELECTIVES (JFE) 2016
JUNE - SEPTEMBER

PUBLIC SECTOR ECONOMICS I

First Semester: Final Examination

Duration: 3 Hours

Date: Tuesday, August 2, 2016

INSTRUCTIONS:

1. This examination has **SIX** questions.
2. You are required to answer **ANY FOUR** questions.
3. Each question carries **FIFTEEN** marks.

Question 1

Suppose that a biscuit factory is situated on the bank of river Athi. The private marginal cost (MC) of producing biscuit (in KSh per ton) is given by the function, $MC = 10 + 0.5Q$

where Q is tonnes of biscuit produced. In addition to this private marginal cost, a marginal external cost (MEC) is incurred. The marginal benefit (MB) to society of each ton of produced biscuit, in KSh, is given by $MB = 30 - 0.5Q$. Assume that each ton of biscuit produces a pollutant which flows into river Athi causing damage valued at KSh10. This is an external cost, as it is borne by the wider community but not by the polluting firm.

- (a) Calculate and interpret the output and price of biscuit production if it is produced under market conditions. **(1 mark)**
- (b) Determine the socially efficient price and output of biscuit production if government forces the firm to correct the damages. **(2 marks)**
- (c) Determine the total Pigouvian tax that would result in the competitive market producing the socially efficient output. How large should per unit MEC has to be in order for it to be socially desirable that no output is produced? **(2 marks)**
- (d) Assuming the government wants to use a command and control policy to achieve the same efficient outcomes as in Pigouvian taxes, where should output be restricted to? Discuss two practical problems associated with using such quantity restriction on this externality from a typical African country perspective. **(3 marks)**



- (e) Draw a diagram illustrating the marginal cost (MC), marginal benefit (MB), marginal external cost (MEC), social marginal cost (SMC) functions and all the results obtained in question one (1). **(3 marks)**
- (f) Calculate the deadweight loss to society as a result of the internalisation of the external cost. **(2 marks)**
- (g) Compute the welfare loss due to the firm's overproduction. **(2 marks)**

Question 2

- (a) Welfare of economies hinges on efficiency and equity of economic activities. These influence the standard of living to some extent. Critically examine the views of the egalitarian and utilitarian on equity of economic outcomes in your country. **(7 marks)**
- (b) In order to arrive at the optimal level of outcomes, the social welfare function has to be constructed. However, an economist, Kenneth Arrow, argues that it is impossible to develop such a welfare function that captures all the preferences of society. In your view, how did Arrow raise these concerns in respect of societal welfare function? **(8 marks)**

Question 3

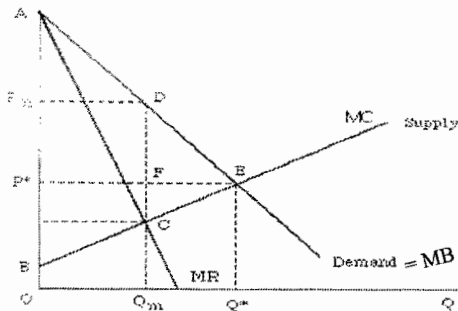
- (a) It is known that, the market can fail and the government can also fail. Describe the difference between market failure and government failure. By using specific examples from your country, discuss four ways in which the government has failed in your country. **(8 marks)**
- (b) In the early 1980s, some African countries implemented the Structural Adjustment Programme (SAP). One of the key areas in the SAP was public sector reform. Discuss, within the context of your country, four public sector reform options that can be used to correct any inefficiencies in the public sector of your country. **(7 marks)**

Question 4

- (a) The probability of being caught in a corrupt practice and punished is dependent on institutions in Africa. Discuss. **(10 marks)**



- (b) The diagram below shows the conditions of a monopoly in the production of cement. Using this diagram, critically undertake a welfare analysis of the inefficiency of monopoly as causing market failure. **(5 marks)**



Question 5

- (a) Assuming you have completed your master's degree programme and employed as a director in one of the public sector institutions in your country. Generally, as a bureaucrat, if you are to decide whether to publicly produce a good/service or allow the market to produce, discuss what factors you would consider in determining who provides the good/service. **(5 marks)**
- (b) When public goods are to be produced, the government has several options. The government can either produce or use alternative market mechanisms to get public goods produced. One of such mechanisms is Lindhal pricing. By discussing the Lindhal pricing mechanism, evaluate how the Lindhal mechanism would be difficult to be implemented in your country. **(10 marks)**

Question 6

- (a) In every society, in deciding on which public good to produce or project to implement, societal members can vote. As they vote, there should be a clear rule on how the choice is to be made. In this respect, demonstrate how political interaction cost can help to determine the rule of voting. **(5 marks)**
- (b) Critically evaluate the logrolling process. Demonstrate one advantage and one disadvantage that can occur in your country as parliamentarians/legislators undertake vote trading. **(5 marks)**
- (c) Critically discuss Peacock and Wiseman's explanation of the growth of government expenditure. **(5 marks)**



AFRICAN ECONOMIC RESEARCH CONSORTIUM
Collaborative Masters Programme in Economics for Anglophone Africa
(Except Nigeria)

JOINT FACILITY FOR ELECTIVES (JFE) 2016

JUNE - SEPTEMBER

PUBLIC SECTOR ECONOMICS II

Second Semester: Final Examination

Duration: 3 Hours

Date: Wednesday, September 21, 2016

INSTRUCTIONS:

1. This examination is divided into two sections: **Section A** and **Section B**.
2. Answer **TWO QUESTIONS** from **EACH SECTION**.
3. You are required to answer **FOUR QUESTIONS** in total.
4. Each question carries **TWENTY FIVE** marks.

SECTION A:

Answer ANY TWO Questions from this Section

Question 1

- (a) Explain how income tax satisfies the properties of a good tax system. **[12 marks]**
- (b) With the aid of appropriate diagrams, demonstrate that an increase in a progressive tax causes work effort supply to increase. **[13 marks]**

Question 2

- (a) In the general equilibrium framework, a tax on capital in the corporate sector may be borne by all capital owners, whether or not their capital is used in the corporate sector. Without stating the assumptions underlying the model, explain how the following effects bear upon relative factor prices.
 - (i) Output effect **[4 marks]**
 - (ii) Factor substitution effect **[4 marks]**
 - (iii) Total effect **[5 marks]**
- (b) By employing appropriate illustration(s), examine carefully which tax regime, lump sum tax or proportional tax, has more effect on work effort. **[12 marks]**



Question 3

- (a) By using the two period inter-temporal model, examine the effect of an increase in taxes on savings. **[13 marks]**
- (b) What is your assessment of tax incentives as a tool for promoting investment in your country? **[12 marks]**

SECTION B:

Answer ANY TWO Questions from this Section

Question 4

- (a) Explain three types of costs of taxation you will likely take into consideration in the design of a good tax system for your country. Provide appropriate remedies for minimizing such costs. **[9 marks]**
- (b) What do you consider to be the main challenges to tax policy makers in Africa? **[8 marks]**
- (c) Explain the major tax policy reforms that have been introduced into the tax system across Africa under the following :
 - (i) Direct taxes **[2 marks]**
 - (ii) Indirect taxes **[2 marks]**
 - (iii) International trade taxes **[2 marks]**
 - (iv) Tax Administration **[2 marks]**

Question 5

- (a) As a student of Public Sector Economics explain why the government of your country should be bothered about the rising trends in tax evasion? **[8 marks]**
- (b) State and explain eight ways through which tax evasion is committed by firms. **[8 marks]**
- (c) In reference to the Yitzhaki (1974) model of tax evasion discuss the relevance of the factors responsible for causing tax evasion to your country **[9 marks]**



Question 6

- (a) In recent times, there has been increasing pressure on African countries to embrace decentralization. In your opinion are these pressures justifiable? **[15 marks]**
- (b) What constitutes the debt burden of a country? Examine the efficiency and equity implications of the debt burden for your country. **[10 marks]**