



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

JOINT FACILITY FOR ELECTIVES (JFE) 2017
JUNE – SEPTEMBER

HEALTH ECONOMICS I
First Semester: Final Examination

Duration: 3 Hours

Date: Tuesday, August 8, 2017

INSTRUCTIONS:

1. This examination consists of five questions.
2. You are required to answer **QUESTION 1** and **ANY OTHER THREE** questions.
3. Note that **Question 1** is **COMPULSORY**.

Question 1: (25 Marks)

- (a) You are provided with the following hypothetical information regarding competitiveness of pharmaceutical industry in country X.

<i>Industry</i>	<i>Concentration ratioC4</i>	<i>Concentration ratioC8</i>	<i>HHI</i>	<i>N</i>
Pharmaceutical	26	42	341	583
Cereal breakfast foods	85	98	2,253	42
Paints	29	43	305	1,129
Aircrafts and parts	79	93	2717	151
Passenger cars	84	91	2676	398

- (i) Show and Explain how concentrationC4, ConcentrationC8 and HHI are computed for each of the industry. **(4 Marks)**
 - (ii) Using the results provided in the table, discuss the comparative competitiveness of the pharmaceutical industry. **(5 Marks)**
 - (iii) Explain key factors that could restrict competition in pharmaceutical industry. **(6 Marks)**
- (b) Discuss the underlying assumptions of the physician market under monopolistic and monopoly market behavior and remember to provide justification for each state. **(10 Marks)**



Question 2: (25 Marks)

- (a) You are provided with the following demand functional form:

$$Q^d = f(P, P_a, I, T, e),$$

where P is the price of good in question, P_a is the price of alternative goods, T is taste and preference, while e is other variables that are not observed in the model.

Demonstrate and discuss how demand for health care service is achieved within the model, explaining how it qualifies as a derived demand in the model. **(10 Marks)**

- (b) According to Grossman (1972) individuals demand health for both consumption and investment. Using his model, discuss demand for health care under the framework of human capital. **(15 Marks)**

Question 3: (25 Marks)

- (a) Explain the meaning of the term supply induced demand (SID) in the perspective of principle- agent model of demand for health care services? Discuss the basic factor that causes SID and the key determinants of its size. **(10 Marks)**
- (b) What are market failures in health care provision? Using clear demonstration, discuss how moral hazard and adverse selection arises and how they contribute to market failure in the health care insurance market. **(15 Marks)**

Question 4: (25 Marks)

- (a) The county of Leads has decided that paracetamol is a useful medicine, which should be made as widely available as possible. The county has three options:
- Make it freely available, financed through county general taxes (but resource are inadequate;
 - Regulate the price by fixing at a lower than equilibrium price;
 - Subsidize the drug.
- (i) As a Health Economist, explain which option will be most attractive and practical. **(4 Marks)**
- (ii) Using the knowledge of consumer and producer surplus demonstrate how consumer surplus, producer surplus and deadweight loss scenarios can be arrived at. **(9 Marks)**



(b) You are provided with the following information regarding a health insurance policy for individual X.

- Individual has a portfolio of wealth amounting to \$10,000
- If the individual falls ill, he/she will spend \$ 8,000 on medical bills
- The probability of an individual getting ill is 2.5%
- The administration cost of the insurance policy is \$5 per policy

(i) Determine the actuarially premium and maximum premium. **(2 Marks)**

(ii) Demonstrate and explain what will happen with regards to the individual wealth and actual utility in the choice of either purchasing or not purchasing a health insurance. **(10 Marks)**

Question 5: (25 Marks)

(a) Discuss the motivation of having managed care as a form of health care reimbursement mechanism. **(5 Marks)**

(b) Discuss various forms of managed care that are adoptable in a health care setting. **(10 Marks)**

(c) The current reform in health financing is in support of Community-based health insurance because it has been argued that it is superior to Private health insurance in line with universal health coverage. Is it true or false? Motivate your answer. **(10 Marks)**