



STRATHMORE BUSINESS SCHOOL
BACHELOR OF SUPPLY CHAIN MANAGEMENT
END OF SEMESTER EXAMS
SCM1205: PRINCIPLES OF ECONOMICS

Date: Wednesday, 13th December, 2023

Time: 1030-1230

Instructions

Attempt **Question One (Compulsory)** and any other **TWO** questions

Question 1

- (a) Consider the productivity possibility frontier shown in Table 1 and use it to answer the following questions.

Table 1: **Nakuru County's productivity frontier**

Wheat in bushels	0	15	30	45	60	75	90	105	120
Cloth in million yards	80	70	60	50	40	30	20	10	0

- (i) If all the resources in Nakuru County were employed in producing cloth how many units of cloth would be produced? {1 mark}
- (ii) Are the following points feasible, not feasible, efficient or inefficient?
(I) 60 million bushels of wheat and 60 million yards of cloth {1 mark}
(II) 75 million bushels of wheat and 10 million yards of cloth {1 mark}
(III) 60 million bushels of wheat and 40 million yards of cloth {1 mark}
- (iii) What is the opportunity cost of producing a bushel of wheat in Nakuru County {2 marks}
- (iv) What is the opportunity cost of producing 40 million yards of cloth? {2 marks}
- (v) What would you advice Nakuru County to do to increase its productivity possibility set? {2 marks}
- (b) With the help of relevant examples explain why the demand curve of normal goods is usually downward sloping {8 marks}
- (c) Consider a Country that produces two goods, milk and honey, according to Table 2

Table 2: Milk and Honey production

Year	Milk (litres)	Price per Litre	Honey (Kilograms)	Price Per Kilogram
2000	100	20	90	100
2001	120	22	100	120
2002	120	25	100	140
2003	140	25	160	140

Required:

- (i) What is the value of the nominal GDP for the respective years {2 marks}
 - (ii) What is the real GDP for the respective years if 2000 is the base year? {2 marks}
 - (iii) Of the statistics in 1c(i) and 1c(ii), which one is the most appropriate in calculating economic growth? Why is the case? {2 marks}
 - (iv) Given your findings in 1c(iii) above, what would be the expected growth between 2001 and 2002? {2 marks}
- (d) A survey indicated that chocolate is Kenyans favourite ice cream flavour. For each of the following, indicate the possible effects on demand, supply, or both as well as equilibrium price and quantity of chocolate ice cream.
- (i) A severe drought in Central Kenya causes dairy farmers to reduce the number of milk-producing cattle in their herds by a third. These dairy farmers supply cream that is used to manufacture chocolate ice cream {2 marks}
 - (ii) A new report by the Kenya Medical Research Institute (KEMRI) reveals that chocolate does, in fact, have significant health benefits. {2 marks}

[30 marks]

Question 2

- (a) Table 3 shows the demand and supply schedule for pizza

Table 3: Demand and Supply Schedule for Pizza

Price	Quantity Demanded	Quantity Supplied
KES4	135 Pizzas	26 Pizzas
5	104	53
6	81	81
7	68	98
8	53	110
9	39	121

- (i) What is the equilibrium price and quantity of Pizza {2 marks}
- (ii) What is the nature of disequilibrium at KES8 and how would the market rectify it? {2 marks}
- (iii) What is the nature of disequilibrium at KES5 and how would the market correct it? {2 marks}

- (iv) Suppose the consumers increased their consumption of Pizzas by 30 units irrespective of the price. What will be the new demand and supply schedule? What will be the new equilibrium price and quantity? {4 marks}
 - (v) State any six factors that would occasion the change in 2a(iv) above {3 marks}
- (b) The Kenyan economy is mixed. With the help of relevant examples state the kind of goods that government and the private sector should focus on producing {7 marks}

[20 marks]

Question 3

- (a) Table 4 shows the national income statistics of country A. Use these statistics to answer the following questions.

Table 4: Country A's National Income statistics

Item	Value (KESbn)
Consumption expenditure (at market prices)	260
Investment expenditure (at market prices)	70
Government Spending (at market prices)	85
Export of goods and services (at market prices)	20
Import of goods and services (at market prices)	25
Net Income from abroad	5
Indirect taxes	60
Capital depreciation	20

- (i) Define GDP and state the three items it measures {4 marks}
 - (ii) Using a relevant approach calculate the GDP of country A given the statistics in Table 5? {2 marks}
 - (iii) What is the distinction between GDP and GNP? What is country A's GNP? {2 marks}
 - (iv) Calculate Country A's net national product (NNP) {1 mark}
 - (v) Suppose Country A did not tax her citizens what would her GDP be? {2 marks}
- (b) Table 5 shows the demand for tax rides in Nairobi County in millions at various prices

Table 5: The new Demand and Supply Schedule for Pizza

Fare per ride	Quantity of Rides Demanded	Quantity of Rides Supplied
KES7	10	12
6.5	11	11
6	12	10
5.5	13	9
5.0	14	8
4.5	15	7

Required:

- (i) State the equilibrium price and number of rides {1 mark}
- (ii) Suppose the Governor of Nairobi sets the maximum fare at KES5.5 per ride. How large is the shortage per ride? Who loses and who benefits from this policy? {8 marks}

[20 marks]

Question 4

- (a) Consider the short run production function $Q = f(k, l) = 6l^2 - 0.4l^3$. Where Q is output, k is capital and l is labour. Capital is fixed at one unit. Use the function to find the values of output (TP_l) for $l = 1, 2, 3, \dots, 12$ and answer the preceding questions {3 marks}
 - (i) Complete the Table in 4(a) above for the marginal product of labour of labour MP_l {2 marks}
 - (ii) Complete the Table 4(a) above for average product of labour of labour AP_l {2 marks}
 - (iii) Identify the three stages of production in the Table in 4(a) above {2 marks}
 - (iv) What are the policy implications to a firm operating in first, second and third stage of production? {6 marks}
- (b) How many workers should this firm hire if the prevailing wage is KES11.2 and the output price is KES2 {5 marks}

[20 marks]

Question 5

Countries A and B produce just two goods X and Y. Assume that for a given amount of land and capital, the following number of hours of labour, as in Table 6, are required to produce one unit of each good.

Table 6: **Input Requirements a unit of each good in country A and B**

	Country A	Country B
Good X	60	120
Good Y	10	12

Required:

- (a) Identify which country has absolute advantage in the production of each good {2 marks}
- (b) Is free trade feasible given your findings in 5(a) above {2 marks}
- (c) What is the opportunity cost of producing good X in (I) Country A (II) Country B? {4 marks}
- (d) What is the opportunity cost of producing good Y in (I) Country A (II) Country B? {4 marks}
- (e) Which country has a comparative advantage in which good? {4 marks}

- (f) If 1 unit of good X = 8 units of good y internationally and the country producing good X sells 30,000 units domestically. How many units does it export to the other country? How much good Y does the other country consume and export? Given that each country has 3,000,000 labour hours {4 marks}

[20 marks]

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