Strathmore
UNIVERSITY

STRATHMORE INSTITUTE OF MATHEMATICAL SCIENCES

BBS Financial Economics/ BBS Finance

END OF SEMESTER EXAMINATION

BSE 1103: MICROECONOMICS 1

DATE: 7th October 2017 Time: 2 Hours

Instructions

1. This examination consists of **FIVE** questions.
2. Answer **Question ONE (COMPULSORY)** and any other **TWO** questions.

Question One *(30 Marks)*

a) Suppose a severe drought hit the sugarcane crop. Predict how this would affect the equilibrium price and quantity in the market of sugar and the market for honey. Draw the supply and demand diagrams to illustrate and your answers. (6 marks)

b) Briefly explain the meaning of price discrimination and outline three conditions under which price discrimination is possible. (5 marks)

c) Use diagrams to distinguish the inefficiency/deadweight loss that results from two different monopolies assuming that one of them charges a single price for all the units sold while the other perfectly price discriminates. Assume that both monopolists have a constant marginal cost. (7 marks)

d) Illustrate the total cost and the total variable cost on the same diagram. Explain the shapes and the relationship between the two curves. (6 marks)

e) If a 12% rise in the price of orange juice decreases the quantity of orange juice demanded by 22% and increases the quantity of apple juice demanded by 14%, calculate the Cross

elasticity of demand for apple juice with respect to the price of orange juice and interpret the results, explaining the relationship between the two commodities. (6 marks)

Question Two *(20 Marks)*

a) Assume that you are tasked with explaining to the management of a firm in an oligopolistic market the reason why the price of the firm's product has been constant for a long time even when the marginal cost has been changing. Using an appropriate diagram(s), use the concept of price elasticity of demand to explain the reason for the price stickiness. (8 marks)

b) The total cost function for a firm in a perfectly competitive market is given by the equation: $TC = Q^3 - 24Q^2 + 600Q$

where TC = total cost in Kshs and Q is quantity.

Required:

i) The average variable cost function. (2 mark)

ii) The output level that will minimize the marginal cost. (4 marks)

iii) Use a diagram to illustrate and explain whether the output computed in (ii) above is the profit maximizing output for the firm. (6 marks)

Question Three *(20 Marks)*

a) Pete is a supplier of several items in his neighborhood. These items include milk and weekend skating shoes for children in the area. Pete gets the milk from reliable suppliers who are able to adjust the amounts available to Pete on Pete's request. On the other hand, the consumers from Pete's estate fully rely on Pete for their daily milk supply. Pete is not the only supplier of weekend skating shoes in the estate. The government increases tax on both milk and skating shoes. Apply the concept of price elasticity and use two different diagrams to illustrate and explain which of the commodities Pete would easily shift the tax burden to his consumers. (10 marks)

b) The Macy's has estimated that the demand for Macy hams is given by the following equation: $Q_M = 30 + 23.A - 50P_M$

Where Q_M is the quantity of Macy hams demanded per month, A is advertising expenditure per month and P_M is the price of Macy hams

The current values of the variables are $A = 5$ and $P_M = 1$

Compute the price elasticity of demand and interpret the results. (5 marks)

c) Discuss two diseconomies of scale that may accrue to a firm as it expands. (5 marks)

Question Four *(20 Marks)*

a) If market economies are more economically efficient than centrally planned economies, briefly discuss whether there would be a reason to prefer having a centrally planned economy rather than a market economy. (10 marks)

b) Distinguish between transfer earnings and economic rent of a factor of production. (4 marks)

c) Illustrate a case where the earnings received by a factor of production are divided between transfer earnings and economic rent. (6 marks)

Question Five *(20 Marks)*

a) Your city just announced a new rent control program under which the maximum rent on apartments will be 20% below the equilibrium price. The price elasticity of supply of the apartments is 0.5.

    i. Use a supply demand diagram to show the effects of the rent control program on the rental housing market. Given that the initial price is $300 per month and initial quantity is 10000 apartments. Label the initial equilibrium point with an i and the point that shows the quantity supplied under rent control with a QS. (7 marks)

    ii. Compute the percentage by which the quantity of apartments increase or decrease. (6 marks)

b) Coconut growers in Thailand have begun an experiment in which men who pick the coconuts are replaced by robots; both working at different speeds and seemingly having different skills. Draw the isoquant map illustrating the coconut picking production function. Explain the shape of the curve and draw a different curve showing the kind of relationship that would hold if men and robots were perfect complements in the picking process. (7 marks)