UNIVERSITY OF SWAZILAND
FACULTY OF SOCIAL SCIENCES
DEPARTMENT OF ECONOMICS
SUPPLEMENTARY EXAMINATION PAPER: JULY 2017

TITLE OF PAPER : MICROECONOMICS II

COURSE CODE : ECO 204

TIME ALLOWED : TWO (2) HOURS

INSTRUCTIONS :

1. ANSWER QUESTION ONE (1) AND ANY TWO (2) QUESTIONS OF YOUR CHOICE.
2. QUESTION ONE (1) CARRIES FORTY (40) MARKS AND THE OTHER QUESTIONS YOU WILL CHOOSE CARRY THIRTY (30) MARKS EACH.
3. NON PROGRAMMABLE CALCULATORS ARE ALLOWED.
4. WHERE NECESSARY, FIGURES ARE TO BE ROUNDED UP TO TWO (2) DECIMAL POINTS.

THIS QUESTION PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR

QUESTION 1 – COMPULSORY (Total =40 Marks)

a) Provide mathematical proofs for the following:
   i) That for a monopolist, the marginal revenue always lies below the demand curve. **(10)**
   ii) That for a monopolist, the slope of the marginal revenue is twice the slope of the demand curve. **(10)**
   iii) That for a perfectly competitive firm, the marginal revenue is equal to its demand curve. **(5)**

b) In the short-run a perfectly competitive firm will continue with production even though it cannot cover all its average costs. Graphically illustrate and explain the condition under which this statement is true. **(10)**

c) Differentiate between pure monopoly and natural monopoly **(5)**

ANSWER ANY TWO (2) QUESTIONS FROM THE FOLLOWING:

QUESTION 2

MTN Swaziland is a government sponsored monopoly for cellular network products. MTN sells its products in two separate markets (the public and industries) and charges different prices. The demand function for the public is: $Q_p = 800 - 10P_p$. The demand function for the industries is: $Q_i = 1200 - 10P_i$. MTN's total cost function is: $C = 50Q + 10{,}000$. MTN is therefore able to discriminate between the two markets.

i) Calculate the profit maximizing quantities for each market. **(10)**
ii) What will be the price level in each market? **(5)**
iii) Calculate MTN's profits. **(5)**
iv) How much costs will MTN incur? **(5)**
v) Are the marginal revenues the same? **(5)**

QUESTION 3

A duopoly market has a demand function defined as: $Q = 120 - P$. Assume that costs are zero, i.e. $C_1 = C_2 = 0$. In this market one firm is a follower and the other firm acts as a leader.

i) Determine the follower's reaction function. **(5)**
ii) Determine leader's reaction function. **(5)**
iii) Calculate the quantities produced by each firm. **(10)**
iv) What are the profits in each market? **(6)**
v) What is the prevailing price in the market? **(4)**

QUESTION 4

A production function for a monopsonist is given as follows: $Q = 15L^2 - 0.2L^3$. The wage function in this market is defined as: $W = 144 + 23.4L$. If the monopsonist sells his output at a price of E3;

i) What is the profit maximizing condition for a monopsonist? **(5)**
ii) What will be his profit maximizing output level? **(15)**
iii) What will be his profit maximizing wage rate? **(5)**
iv) How much profit will he make? **(5)**

**********GOOD LUCK**********