

University of Swaziland

Faculty of Social Science

Department of Economics

Final Examination Paper, November 2013

Title of paper : Intermediate microeconomic Theory

Course Code : Econ 302

Time allowed : Three (3) hours

Instructions : 1. Answer Three (3) questions.

Question One (1) is compulsory, choose any two from the remaining four questions provided.

2. Question one (1) carries fifty (50) marks and the remaining questions carry equal marks of twenty five (25) each.

Do not open this paper until the invigilator has granted permission.

Question 1

- a) Give five Examples of oligopolistic markets. (5 marks)
- b) Assume that the demand and cost functions of members of a duopoly are:

$$P = 100 - 0.5 [q_1 + q_2]$$

$$C_1 = 5q_1$$

$$C_2 = 0.5q_2^2$$

If the two members of the duopoly decide to form a cartel or collude, determine the respective quantities, price, profits of each member of the cartel and the cartel profits. (20 marks)

- c) Write short explanatory notes on the following:
- Expansion path
 - Explicit costs vs. implicit costs
 - Nonsatiation
 - Properties of an expenditure function
 - Law of diminishing Marginal Rate of Substitution

(5 marks each)

Question 2

Given the following production function:

$$Q = 600k^2L^2 - K^3L^2$$

- a) Derive the marginal products of both inputs. (8 marks)
- b) Derive the average product of labour. (5 marks)
- c) What will be the marginal Rate of Technical Substitution (MRTS), also show that it is negative.
- d) Show that the isoquant for the two inputs is convex to the origin. (5 marks)

Question 3

- a) Show graphically that the price discriminating monopolist faces two separate demand curves. (7 Marks)
- b) Suppose that a market demand function is given by:

$$q = 100 - 10 p$$

Also given a long-run marginal cost that is constant at E2

Find the profit-maximising output and price for a monopolist.

(18 Marks)

Question 4

- a) Discuss fully the following three functions of utility: (5 marks each)
- a. Nonsatiation
 - b. Strict convexity
 - c. Differentiability
- b) Outline the properties of consumer preferences. (10 marks)