

UNIVERSITY OF SWAZILAND
FACULTY OF SOCIAL SCIENCE
DEPARTMENT OF ECONOMICS
MAIN EXAMINATION QUESTION PAPER, MAY 2007

TITLE OF PAPER : INTERMEDIATE ECONOMIC THEORY

COURSE CODE : ECON 301

TIME ALLOWED : THREE (3) HOURS

INSTRUCTIONS : 1. ANSWER FOUR (4) QUESTIONS: TWO (2) FROM SECTION A AND TWO (2) FROM SECTION B.

2. ALL QUESTIONS CARRY EQUAL MARKS OF 25 EACH.

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SECTION A

QUESTION 1

- a) Write short explanatory notes on the following:
- i) Hotelling's theorem. (3)
 - ii) Consumer surplus. (3)
- b) Suppose that you are given two commodities and a utility function defined by
 $U = X_1 X_2^2$
- i) Derive the ordinary demand functions for both commodities. (6)
 - ii) Derive the indirect utility function. (5)
 - iii) Using the Roy's theorem, prove that you can get back your ordinary demand functions that you derived in i) above. Prove only for commodity X_1 . (8)

QUESTION 2

- a) Write short explanatory notes on the following:
- i) Elasticity of substitution. (3)
 - ii) Implicit costs. (3)
- b) Consider the following Cobb-Douglas production function:
 $Q = AL^a K^b$ where $0 < a < 1$, $0 < b < 1$ and $a + b = 1$
- i) Find expressions for the marginal product of labour and capital. (4)
 - ii) Determine the marginal rate of technical substitution between labour and capital ($MRTS_{LK}$) when L is on the y-axis and K on the x-axis. (6)
 - iii) Show that isoquants are convex to the origin when L is on the y-axis and K on the x-axis. (5)
 - iv) Prove that "a" and "b" are elasticities of output with respect to labor and capital. (4)

QUESTION 3

a) Carefully explain the following terms:

- i) Stackelberg behaviour. (3)
- ii) Bertrand behaviour. (3)

b) In a duopoly market assume that you are given the following inverse demand function:

$$P = 100 - 0.5(q_1 + q_2)$$

and the duopolists' costs are:

$$C_1 = 5q_1$$

$$C_2 = 0.5 q_2^2$$

- i) Determine the reaction functions for both firms. (5)
- ii) Assume that firm 1 is a leader: Determine the leader's output, q_1 and the follower's output, q_2 . (6)
- iii) Determine the profits for the leader and the follower. (6)
- iv) What will be the price level? (2)

QUESTION 4

a) Explain the following terms:

- i) Pareto efficiency. (3)
- ii) Contract curve. (3)
- ii) Walras law. (3)

b) Provide a non-technical outline of the logic of the Second Theorem of Welfare economics (use the Edgeworth box analysis) (16)

SECTION B

QUESTION 5

- a) Distinguish between the fixed exchange rate and the flexible exchange rate. (7)
b) Let us assume that the Swaziland economy is defined by the following equations:

$Y = C + I + G$	(Income Identity)
$C = 300 + 0.75Y_d$	(Consumption)
$I = 300$	(Investment)
$G = 200$	(Government Expenditure)
$T = 0.2$	(Tax rate)

- i) What is the level of income at which spending balance occurs? (7)
ii) Consider the same economy, except that investment depends positively on income, so that $I = 300 - 0.2Y$. Determine the level of income at which spending balance occurs. (11)

QUESTION 6

- a) Distinguish between fiscal and monetary policies. (5)
b) Discuss the effects of expansionary fiscal and monetary policies in the case of liquidity trap and the classical case. (20)

QUESTION 7

- a) Write short notes on the following:
i) Tax rate multiplier. (5)
ii) Balanced budget multiplier. (5)
iii) Government expenditure multiplier. (5)
b) Explain how the tax system functions as an automatic stabiliser of income in an economy. (10)

QUESTION 8

- a) What do you understand by the term "inflation"? (5)
b) Discuss fully the distinction between demand - pull and cost-push inflation. (15)
c) Which one of the above mentioned types of inflation would better explain inflation in Swaziland? (5)