UNIVERSITY   OF SWAZILAND

FACULTY OF SOCIAL SCIENCE

DEPARTMENT OF ECONOMICS

MAIN EXAMINATION

MAY 2011

TITLE OF PAPER: INTERMEDIATE ECONOMICS THEORY

COURSE CODE: ECON 301

TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS: 1.   ANSWER FOUR (4) QUESTIONS:

TWO FROM SECTION A AND TWO FROM SECTION B.

2.   ALL QUESTIONS CARRY EQUAL MARKS OF TWENTY FIVE (25) EACH.

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SECTION A

QUESTION 1

i) Write short explanatory notes on the following consumer theory concepts: **(3 marks each)**

   a) Differentiability assumption.

   b) The law of diminishing marginal rate of substitution.
   c) Compare and contrast the preference theory and the revealed preference theory.

ii) Given the following utility function: $U = 3\sqrt{x1^2x2}$

   a) Derive the marshalian demand functions **(8)**
   b) Derive the indirect utility functions **(2)**
   c) Using the Roy's theorem derive the ordinary demand function for both commodities.

   (6)

QUESTION 2 .

i) Given the following production function)
   $$Q = 600K^2L^2 - K^3L^2$$

   a) Derive the marginal products of both inputs. **(4)**
   b) Derive the average product of labor. **(3)**
   c) What will be the marginal rate of technical substitution ($MRTS_{LK}$), also show that it is negative **(5)**
   d) Show that the isoquant for the two inputs is convex to the origin **(3)**

ii) Discus the relationship that exists between the total , marginal and average cost curves for a firm that is experiencing increasing returns to scale. **(10)**

QUESTION 3

i)   Suppose that in Swaziland, government is the only employer of nurses and the production function for government is given by: $Q = 15L^2 - 0.2L^3$. Suppose also, that the price of labor is defined by the following function: $W = 144 + 23.4L$. Given that government sells his output/charges P = E3 per patient for health care services.

          a)   What type of a market structure is this?   **(3)**
          b)   Calculate the profit maximizing output, q^*.   **(8)**
          c)   Calculate the profit maximizing wage, W^*.   **(2)**
          d)   Calculate the Swaziland government's profit.   **(2)**

ii)   A profit – maximizing monopolist never produces an output at which the price elasticity of demand is less than one (in absolute terms). Why?   **(5)**

iii)   A supply function is defined as a one-to-one relationship between price and quantity. Use a diagram to illustrate that it makes no sense to speak of the "supply function/curve" of a monopolist.   **(5)**

QUESTION 4

i)   Write short explanatory notes on the following General Equilibrium theory concepts:

                                                             (3 marks each)
          a)   Walrasian equilibrium
          b)   Gross demand
          c)   Provide a reason why a contract curve in a standard two-person two – commodity pure exchange economy represents pareto efficient allocations?

ii)   Using the edgeworth box analysis explain how general equilibrium is attained in a pure exchange economy consisting of two consumers (A & B) and two Commodities (1 & 2). You must show and explicitly explain that a point such as M in the centre of the region of improvement is a pareto efficient allocation.   **(16)**

SECTION B

QUESTION 5

i) Derive the balance of payments curve graphically. What influences its slope? And what factors can cause it to move upwards or downwards (shift)? **(15)**

ii) Outline the effectiveness of an expansionary monetary with mobile capital under a flexible exchange rate regime. **(10)**

QUESTION 6

i) Given that the bargained real wage is represented as: $W/P^e = mo + miY$ and that the adaptive expectations assume that workers expect the price level to be constant over time such that; $P^e = P_{-1}$. Suppose that you are also given the price level that firms set after taking into account the bargained real wage as ; $P = (1 + \delta)W$, where δ is the mark-up.

a) Derive and graph the aggregate supply curve. **(10)**

b) What are the properties of the aggregate supply curve you derived in a)? **(6)**

ii) Differentiate between the efficiency wage model and the wage setting under trade unions. **(9)**

QUESTION 7

i)   Suppose that the Swazi economy is defined by the following closed macroeconomic model:

National Income: $Y = C + I + G$

Consumption: $C = 150 + 0.6Y_d$

Investment: $I = 1150 - 58i$

Disposable Income: $Y_d = Y - T$

Money Demand: $Md = L_1 + L_2$

Where i is the rate of interest; G is the level of government expenditure; L_1 is the transactions-precautionary demand; L_2 is the speculative demand and Ms is Money Supply.

i)   List all the endogenous and exogenous variables in this model   (5)
ii) Given that $T = 30 + 0.3Y$ and $G = 1160$. Determine the function which shows equilibrium in the product market.   (5)
iii) If the transaction-precautionary demand for money is given by $L_1 = 0.7Y$; the speculative demand for money is $L_2 = 1850 - 77i$ and money supply is $Ms = 3950$; determine the function that shows equilibrium in the money market.   (5)
iv) What will be the overall equilibrium values of Y and i in this closed economy?   (5)
v)   If government decides to reduce its expenditure to $G = 928$ and the monetary authorities on the other hand also reduces money supply to $Ms = 2501$, How will these effects impact on the equilibrium values?   (5)

QUESTION 8

Write short explanatory notes on the following: **(5 marks each)**

a) Rational Expectations school of thought.
b) The government of Swaziland is currently experiencing a crisis in its fiscal policy. It has been reported on newspapers that expenditure far exceeds the revenue available. The minister of finance has hinted that his government would borrow domestically in order to finance this huge deficit. As an economist advise the minister on the likely problems the economy would face if he only relies on this particular type of deficit financing.
c) Net Exports.
d) Natural rate of unemployment.
e) Business Cycles.