RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College under University of Calcutta)

B.A./B.SC. SECOND SEMESTER EXAMINATION, MAY-JUNE 2013

FIRST YEAR

Date : 20/05/2013 **Economics (Honours)**

Time : 11am – 3pm Paper : II Full Marks : 100

[Use separate answer books for each group]

Group - A

1. Answer **any three** questions of the following : [3 × 4]
   a) If the consumer is indifferent between the bundle (1, 1) and (2, 2) what would you infer about the nature of the goods? (4)
   b) Suppose the production function of a firm is given by $Q = AK^{\alpha}L^{\beta}$. Find the elasticity of substitution 'σ' corresponding to this production function. (4)
   c) Find the profit function for a firm which produces an output y using input x, where the production function is y = log x. Assume the price of the product be p & the price of the input be w. (4)
   d) State and derive Hotelling's lemma. (4)
   e) The total cost (C) of producing a commodity is given by: $C = \alpha + \beta Q + \delta Q^2 + \lambda Q^3$. (Where Q is the volume of production) Under what parametric restrictions will this equation generate conventional U - shaped average and marginal cost curves? (4)
2. Answer **any one** question of the following : [1 × 8]
   a) i) Give examples of preferences where A) substitution effect is always zero and B) income effect is always zero for a particular commodity. (2+2)
      ii) A consumer lives in a two commodity world and spends the entire income on these two goods. Show that both the commodities cannot simultaneously be inferior or luxury. (4)
   b) i) If own price elasticity of demand for a good is some constant k along the demand curve, then derive the demand function for the good. (4)
      ii) Consider the following production function: $Q = 10L^{0.75} K^{0.25}$ (symbols have usual meanings). If L and K increase by 20% and 12%, respectively, what will be the percentage increase in Q?
      If L reduces by 12% and K increases by 36%, what will be the impact on Q? (2+2)
3. Answer **any two** questions of the following : [2 × 15]
   a) i) If in a two good framework the cross elasticity of x with respect to price of y is positive, then explain whether y has elastic or inelastic demand. (5)
      ii) Show that the consumer remains unaffected if all prices and money income changes in same proportion. What is its' implication on demand elasticites? (5)
      iii) If a consumer always spends a fixed amount of money on a particular good, what will be the value of own price elasticity of that good. Explain your answer. (5)
   b) Suppose a firm operates in the Short Run with the cost function c = f(q) + M. Explain why the AVC and AC curves are u - shaped in the Short Run. Show that the Marginal Cost curve cuts through the minimum point of AVC and AC curves. Also explain why the AVC curve approaches the AC curve at higher levels of output. (5+5+5)
   c) i) "A consumer usually prefers cash subsidy to an equivalent kind subsidy". Examine the validity of the statement. (5)
      ii) State and explain the weak axiom of revealed preference theory. (5)
      iii) Using the axioms of revealed preference theory, establish the negativity of the substitution effect. (5)

d) i) A producer produces a good using two inputs labour (L) and capital (K) and is facing a fixed-coefficient technology. Write down the production function and explain its form. (3)

ii) If the endowment of capital is given in the short run, then derive the average and marginal product curves of labour under fixed coefficient technology. (7)

iii) Consider the utility function: $y = \alpha \log x_1 + (1-\alpha) \log x_2 \quad 0<\alpha<1$, where x_1 and x_2 are quantities of commodity consumed. Discuss the degree of homgeneity and explain whether it is homothetic or not. (5)

Group – B

4. Answer **any three** questions of the following : [3 × 4]

a) Explain why the following are not included in National Income:

i) Transfer payments

ii) Intermediate goods

b) How could unemployment insurance result into a rise in frictional unemployment?

c) Explain the concept of 'Crowding Out'.

d) How does the stock market relate to the overall performance of the economy?

e) What is the impact of an increase in thriftiness in the Keynessian cross model.

5. Answer **any one** question of the following : [1 × 8)]

a) Assume the following equations to summarize the structure of the economy:

$$C = Ca + 0.8(Y - T)$$

$$Ca = 260 - 10r$$

$$T = 200 + .2Y$$

$$(\frac{M}{P})^d = 0.25Y - 25r$$

$$(\frac{M}{P})^s = 2{,}000$$

$$I = 1900 - 40r$$

$$G = 1800$$

$$NX = 700 - .14Y$$

i) Derive the equation for the IS curve

ii) Derive the equation for the LM curve

iii) Compute the equilibrium values of interest rate (r) and real output (Y)

iv) Suppose consumer and business confidence decline, resulting into decreases in the amounts of autonomous consumption and planned investment by 40 and 60 units respectively. Derive the new equation for the IS curve and compute the new equilibrium interest rate (r) and real output (Y). (1+1+3+3)

b) Discuss how firms determine the optimum capital stock and decide to change their capital stock in the neo-classical model of business fixed investment. (8)

6. Answer **any two** questions of the following : [2 × 15]

a) Explain how we can derive the aggregate demand curve from the IS-LM analysis. What will be shape of the aggregate demand curve if:

i) Investment demand is perfectly interest elastic?

ii) Investment demand is perfectly interest inelastic? (5+5+5)

b) Explain the Keynesian conjectures about the consumption function. How does Fisher's model of intertemporal choice modifies the idea? How does the predictions of the model change if we introduce borrowing constraint in the model? (9+3+3)

c) What is real wage rigidity? How can real wage rigidity explain the persistence of unemployment in an economy? Discuss any two reasons for the existence of real wage rigidity. (1+2+6+6)

d) Suppose that planned expenditure in an otherwise Keynesian model is given by $E = C(y-T) + I(i-\pi^e)+G$. Where i. nominal interest rate, π^e : expected inflation.

i) How does equal increase in G and T affect the IS curve and what is the effect on Y for a given?

ii) How does an equal increase in G and T affect the AD curve and thus what is the effect on Y for a given P? (All symbols are having usual meanings). (7+8)