



## PART - D

28. Discuss the applicability of Leontief open input output model in an economy.
29. State and prove various properties of VES production function.
30. Discuss the nature and importance of linear programming.
31. What is optimization ? Explain different methods used in economic analysis for optimizing a function. (2×13=26)



Reg. No. : .....

Name : .....

## Third Semester M.A./M.Sc./M.Com. Degree (Reg./Sup./Imp.)

Examination, November 2014

(2010 Admn. Onwords)

## ECONOMICS

## Optional 07 : Mathematical Economics

Time : 3 Hours

Max. Marks : 80

- Instructions :** Part A : Answer **all** questions. **Each** question carries **one** mark.
- Part B : Answer **any 8** questions. **Each** question carries **3** marks.
- Part C : Answer **any 4** questions. **Each** question carries **5** marks.
- Part D : Answer **any 2** questions. **Each** question carries **13** marks.

## PART - A

- Game theory was developed by
  - Newmann
  - Hicks
  - Newmann and Morgenstern
  - None of the above
- Reduction of price is justifiable on the part of the seller if the price elasticity of demand is
  - Equal to zero
  - Less than one
  - Greater than one
  - None of the above
- Kinked iso quant is normally related to \_\_\_\_\_ substitutability of factors of input
  - Limited
  - Perfect
  - Constant
  - Zero



4. A shift of the demand curve to the right will cause a greater increase in the equilibrium quantity if
- The supply curve is more elastic
  - The supply curve is more inelastic
  - The supply curve is unitary elastic
  - The elasticity of supply deviates from unity in either direction
5.  $P = MR = AR$  is a character of
- Imperfect competition
  - Monopolistic competition
  - Monopoly
  - Perfect competition
6. The indifference curves for perfect complements are
- Straight lines
  - Curves
  - Concave upwards
  - L shaped
7. According to Engel's law
- Proportion of expenditure on food increases with income
  - Proportion of expenditure on food decreases with income
  - Proportion of expenditure on food remain constant with income
  - None of these
8. When  $AC \neq MC$ ,  $AC$  reaches
- The highest
  - The lowest
  - Neither lower nor higher
  - Stagnant
9. In a linear programming problem, a feasible solution is one which satisfy
- The objective function
  - The constraints
  - Both the above
  - None of these
10. A constant sum game is one in which
- The total gain is constantly changing
  - The total gain is indeterminate
  - The total gain is fixed
  - The total gain fluctuates

**(1×10=10)**

## PART – B

- Mention two properties of demand functions.
- State mathematically Slutsky equation.
- State Roy's Identity.
- Define expansion path.
- State the saddle point theorem.
- Mathematically define marginal cost.
- What is saddle point ?
- Explain pay off matrix.
- State what is linear expenditure system.
- Mathematically explain market equilibrium.
- Comment on linear cost function,  $C = \alpha + \beta Q + U$ .

**(3×8=24)**

## PART – C

- Explain indirect utility functions.
- Write a note on monopoly power with examples.
- Explain different types of iso quant.
- Explain the application of duality theorem.
- Explain Prisoner's dilemma.
- Explain the producer's equilibrium in monopoly.

**(5×4=20)**