C 82555 **(Pages : 3)** **Name.....**

Reg. No.....

FOURTH SEMESTER M.A. DEGREE EXAMINATION, JUNE 2015

(CUCSS)

Applied Economics

Core IX—MATHEMATICAL ECONOMICS

Time : Three Hours Maximum : 36 Weightage

Part A

Answer **all** *questions.*
Each bunch of four questions carries a weightage of 1.

A. Multiple Choice :

1 $\frac{\Delta(K/L)}{\Delta(MRTS_{LK})}$ $\frac{MRTS_{LK}}{K/L}$.

(a) MRS. (b) MRTS.
(c) Elasticity of substitution. (d) None of the above.

2 CES production function considers only :

(a) Two factors of production. (b) Three factors production.
(c) Four factors production. (d) None of the above.

3 Non-satiety is one of the assumptions of :

(a) CES production function. (b) CD production function.
(c) Indifference Curve analysis. (d) None of the above.

4 Indifference cure approach was first developed by :

(a) Edgeworth. (b) J.R. Hicks.
(c) R.G.D. Allen. (d) None of the above.

B. Multiple Choice :

5 Max : $f = 2x + 5y$ is a :

(a) Subjective function. (b) Objective function.
(c) Structural constraints. (d) None of the above.

6 Every LP problem in its standard form involves :

(a) Objective function. (b) Structural constraints.
(c) Non-negativity constraints. (d) All the above.

Turn over

7 CES function are linearly homogeneous but :

(a) $\sigma \neq 1$. (b) 0- # O.

(c) a = 1. (d) **a = 0.**

8 The generalized form of Slutsky's equation is :

(a) Normal good if $\frac{\partial_{qj}}{\hat{}_{pJ}} < O$. (b) Giffen good if $\frac{a_{qj}}{a_{pj}} > 0$.

(c) Inferior *good if* $\frac{a_{\psi j}}{\partial} < \wedge$. (d) All the above.

C. Fill in the blanks :

9 The concept of "Interior solution" is used in _____

10 Translog production function enables the measurement of _____

11 ~~The sign of is always negative in Slutsky~~ equation.

12 ~~Input-output analysis was propounded by~~

D. State True *or* False :

13 One of the Hawkins-Simon condition is determinant of the matrix must always be positive.

14 An Input-Output model which has endogeneous final demand vector is known as Dynamic I-0 model.

15 Income elasticity of demand is always positive.

16 Consumer choice under risk was explained by Dusenberry.

(4 x 1 = 4 weightage)

Part B

Answer any **ten** *questions.*
Each question carries a weightage of 2.

17 Explain demand function.

18 Write a note on homogeneous utility function.

19 Define expected utility.

20 What are the properties of CES production function ?

21 How do you define technological progress ? Explain.

22 What is embodied technology ? Explain its significance.

23 Write a note on multiple product monopoly.

24 Explain Sweezy model.

25 Briefly explain the determination of interest rates.

26 Write a short note on "Retirement and role of durable equipments".

27 What is mixed strategy ? Explain.

28 Briefly explain two person zero-sum game.

(10 x 2 = 20 weightage)

Part C

Answer any **three** *questions.*
Each question carries a weightage of 4.

29 Given the utility function $U = x^2 + 3xy - 5y^2$, price of commodity *x* is Rs. 2, price of commodity y is Rs. 3 and consumer's money income Rs. 6. Find out the equilibrium level of consumption of commodities *x* and y. Also prove the conditions for maximization.

30 Explain the salient features of C-D production function. Elucidate its significance.

31 Comment on "Taxation and Monopoly".

32 Briefly explain the investment theories of firm.

33 Solve the following LPP using Simplex method :

Maximize $Z = x_1 + x_2$

subject to $8x_1 + x_2 \quad 200$

$x_1 + 2x_2 \quad 100$

and $x_1 \quad 0, x_2 \quad 0.$

(3 x 4 = 12 weightage)