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Mathematical Economics

Group Number :	1
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Mathematical Economics-1

Section Id :	864351532
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	100

Number of Questions to be attempted : 100

Section Marks : 100

Mark As Answered Required? : Yes

Sub-Section Number : 1

Sub-Section Id : 864351576

Question Shuffling Allowed : Yes

Question Number : 1 Question Id : 86435110545 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

What shape can an Indifference curve take?

1. Downward convex
2. Downward sloping straight line
3. Right angled
4. All of the above

Options :

86435134407. 1

86435134408. 2

86435134409. 3

86435134410. 4

Question Number : 2 Question Id : 86435110546 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of the following is true about integers?

1. All Integers have denominator 1
2. All integers are fractions that have recurring decimals
3. All integers are fractions that have non-terminating decimals
4. Integers are imaginary

Options :

86435134411. 1

86435134412. 2
86435134413. 3
86435134414. 4

Question Number : 3 Question Id : 86435110547 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The relation between total utility and marginal utility for two products is

1. $TU = MU_1 + MU_2$
2. $TU = MU_1 * MU_2$
3. $TU = MU_1 / MU_2$
4. $TU = (MU_1 + MU_2)^2$

Options :
86435134415. 1
86435134416. 2
86435134417. 3
86435134418. 4

Question Number : 4 Question Id : 86435110548 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

In a relationship between years of Education and Development of an individual, which is the dependent variable?

1. Development
2. Education
3. Both development and education may be dependent variable
4. Data is not sufficient to draw a conclusion

Options :
86435134419. 1
86435134420. 2
86435134421. 3

86435134422. 4

Question Number : 5 Question Id : 86435110549 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Economic models are used

1. To predict the future
2. To calculate risk involved
3. For research
4. All of the above

Options :
86435134423. 1
86435134424. 2
86435134425. 3
86435134426. 4

Question Number : 6 Question Id : 86435110550 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Given the Utility function U(X,Y) = XY, the indifference curve function is given by

1. 2XY = X+Y
2. XY = c, c is a constant
3. Incomplete information to represent indifference curve function
4. None of the above

Options :
86435134427. 1
86435134428. 2
86435134429. 3
86435134430. 4

Question Number : 7 Question Id : 86435110551 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Phillips is addicted to alcohol. Clearly, Phillips will prefer any bundle of goods with more alcohol, regardless of the amount of the other commodity in the bundle. Which of the following statements is correct with regard to Phillips indifference curve?

1. Convex to the origin
2. Concave to the origin
3. Downward sloping straight line
4. Indifference curve does not exist
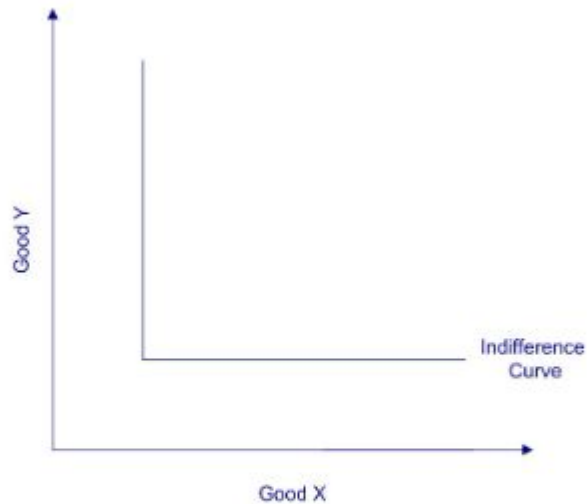
Options :
86435134431. 1
86435134432. 2
86435134433. 3
86435134434. 4

Question Number : 8 Question Id : 86435110552 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Observe the following diagram. Which of the following statements is correct?

1. Good X and Good Y are perfect substitutes
2. Good X and Good Y are perfect complements
3. Indifference curve is always convex to the origin
4. Good X is a bad commodity

Options :
86435134435. 1
86435134436. 2
86435134437. 3
86435134438. 4

Question Number : 9 Question Id : 86435110553 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Given the budget equation between two goods x and y is

$$B = p_x x + p_y y$$

If the price of good y increases, the price of good x and the budget remain the same, how would the budget line shift? (good y is measured along y axis)

1. Become flat
2. Become steep
3. Remain the same
4. Become a straight line parallel to the axis of measuring good y

Options :
86435134439. 1
86435134440. 2
86435134441. 3
86435134442. 4

Question Number : 10 Question Id : 86435110554 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

$$Y = C + I + G$$

where Y is national income, C is consumption expenditure, I is investment expenditure and G is government expenditure, is

1. A behavioural equation
2. A definitional equation
3. An Equilibrium equation
4. A Simultaneous equation

Options :
86435134443. 1
86435134444. 2
86435134445. 3
86435134446. 4

Question Number : 11 Question Id : 86435110555 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Given the national income model

$Y_t = C_t + I_t$ and $C_t = 750 + 0.5Y_{t-1}$

Y_t is income, Y_{t-1} is income in previous period, C_t is consumption expenditure and I_t is investment and is exogenous.
If $I_t = 500$, the equilibrium income is (assuming income remains the same)

1. 2000
2. 2500
3. 1500
4. 1700

Options :
86435134447. 1
86435134448. 2
86435134449. 3
86435134450. 4

Question Number : 12 Question Id : 86435110556 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Given the following demand and supply functions

$Q_d = 10 - 2P_t$ and $Q_s = -5 + 3P_{t-1}$

The time path of equilibrium is dynamically

1. Stable
2. Unstable
3. Constant
4. Not enough information to find the time path

86435134451. 1

86435134452. 2

86435134453. 3

86435134454. 4

Question Number : 13 Question Id : 86435110557 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The autoregressive model

1. specifies that the output depends linearly on its own previous values
2. is a simple linear equation model without any lags
3. is a first order differential equation
4. is a second order differential equation

Options :

86435134455. 1

86435134456. 2

86435134457. 3

86435134458. 4

Question Number : 14 Question Id : 86435110558 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

$\Delta^2 y_t$ can also be written as

1. $\Delta(y_{t+1} - y_t)$
2. $y_{t+2} - 2y_{t+1} + y_t$
3. $y_{t+2} - y_{t+1}$
4. $\Delta(y_{t+1} - y_t)$ and $y_{t+2} - 2y_{t+1} + y_t$

Options :

86435134459. 1

86435134460. 2

86435134461. 3

86435134462. 4

Question Number : 15 Question Id : 86435110559 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

If X is a random variable, $X(t)$ generally denotes a _____ function and X_t denotes a _____ function.

1. Continuous, discrete
2. Discrete, continuous
3. Polynomial, exponential
4. Exponential, polynomial

Options :

86435134463. 1

86435134464. 2

86435134465. 3

86435134466. 4

Question Number : 16 Question Id : 86435110560 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Which of the following data are available quarterly and annually?

1. Stock prices
2. Inflation rate
3. GDP
4. Population rate

Options :

86435134467. 1

86435134468. 2

86435134469. 3

86435134470. 4

Question Number : 17 Question Id : 86435110561 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Data on government budgets are released

1. Monthly
2. Quarterly
3. Annually
4. Bi-annually

Options :
86435134471. 1
86435134472. 2
86435134473. 3
86435134474. 4

Question Number : 18 Question Id : 86435110562 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Given $Y(t) = [Y(0) - \bar{Y}(0)]e^{\lambda t} + \bar{Y}(0)e^{mt}$, if $Y(0) = \bar{Y}(0)$, then which of the following is true?

1. The time path of income will progress away from the equilibrium path by a rate of $\lambda = \frac{s}{\alpha}$
2. The time path of income is equal to the equilibrium rate of growth of income at the same rate as autonomous investment
3. There is exponential growth of income at the rate of e
4. The time path of income is equal λ times the rate of growth of income

Options :
86435134475. 1
86435134476. 2
86435134477. 3
86435134478. 4

Question Number : 19 Question Id : 86435110563 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

If A is autonomous investment, which of the following shows that autonomous investment is progressive?

1. A= k, k is a constant
2. $A = A_0 e^{mt}$
3. A = kt
4. A= k(t+1)

Options :

86435134479. 1

86435134480. 2

86435134481. 3

86435134482. 4

Question Number : 20 Question Id : 86435110564 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

If $P(t) = [P(0) - \bar{P}]e^{-\lambda t} + \bar{P}$, then $P(t) = \bar{P}$, if

1. $e^{-\lambda t} \to 0$
2. $e^{-\lambda t} \to \infty$
3. $e^{-\lambda t} \to 1$
4. $e^{-\lambda t} \to P$

Options :

86435134483. 1

86435134484. 2

86435134485. 3

86435134486. 4

Question Number : 21 Question Id : 86435110565 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

If MPS = marginal propensity to save and MPC= Marginal propensity to consume then which of the following is true?

1. MPC*MPS = 1
2. MPC/MPS =1
3. MPS-MPC =1
4. MPS+MPC = 1

Options :

86435134487. 1
86435134488. 2
86435134489. 3
86435134490. 4

Question Number : 22 Question Id : 86435110566 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Formula for finding the inverse of a matrix is

1. A^{-1} = adj A/$|A|$
2. A^{-1} = adj A*$|A|$
3. A= $|A|$ /adj A
4. None of the above

Options :

86435134491. 1
86435134492. 2
86435134493. 3
86435134494. 4

Question Number : 23 Question Id : 86435110567 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of the following is true about matrix multiplication property?

1. A(BC)= (AB)C
2. A(B+C) = AB +AC
3. A(BC)= (AB)C and A(B+C) = AB +AC are correct
4. None of the above

Options :
86435134495. 1
86435134496. 2
86435134497. 3
86435134498. 4

Question Number : 24 Question Id : 86435110568 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

A Matrix is a rectangular _____

1. Set of numbers
2. Array of numbers
3. Function of numbers
4. All of the above

Options :
86435134499. 1
86435134500. 2
86435134501. 3
86435134502. 4

Question Number : 25 Question Id : 86435110569 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

A firm's total cost function is given as C = 25x+2x², where x is output then expression for average cost is

1. 25+2x
2. 25x
3. 2x
4. 25

Options :
86435134503. 1
86435134504. 2
86435134505. 3
86435134506. 4

Question Number : 26 Question Id : 86435110570 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The value of p and q in the set of simultaneous equations p = 420 − 0.2q and p = 60 + 0.4q

1. p = 300 and q = 600
2. p = 600 and q = 300
3. p = 600 and q = 600
4. p = 300 and q = 300

Options :
86435134507. 1
86435134508. 2
86435134509. 3
86435134510. 4

Question Number : 27 Question Id : 86435110571 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which one is true?

1. The product of two rational numbers is rational
2. The sum of two irrational numbers is a rational number
3. The product of two odd integers is an odd integer
4. All of the above

Options :

86435134511. 1

86435134512. 2

86435134513. 3

86435134514. 4

Question Number : 28 Question Id : 86435110572 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which statement is true?

1. Every real number is rational number
2. There can be a real number which can be rational and irrational number
3. Every irrational number is real number
4. An imaginary number is either rational or irrational number

Options :

86435134515. 1

86435134516. 2

86435134517. 3

86435134518. 4

Question Number : 29 Question Id : 86435110573 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

If A = {1,2,3}, B= {3,4} and C= {4,5,6} then A* (B∩C) will be

1. {(1,4), (2,4), (3,4)}
2. {1,2,3,4,5,6}
3. {1,2,3,4}
4. {(1,3), (2,3), (3,4)}

Options :
86435134519. 1
86435134520. 2
86435134521. 3
86435134522. 4

Question Number : 30 Question Id : 86435110574 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

For the given set A= {2,3,4} and B ={4,5}, which of the following is correct

1. 5∈A
2. {5} ⊂A
3. 4∈A but not B
4. All are incorrect

Options :
86435134523. 1
86435134524. 2
86435134525. 3
86435134526. 4

Question Number : 31 Question Id : 86435110575 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

What is the golden ratio?

1. 1 .681
2. 1 .618
3. 1 .186
4. 1 .610

Options :

86435134527. 1
86435134528. 2
86435134529. 3
86435134530. 4

Question Number : 32 Question Id : 86435110576 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which one is not an implicit function?

1. $x^2 + y^2 - 1 = 0$
2. $xy + 2x^2y - 12$
3. $x = xy^2 + 2xy + 3$
4. $y - 2x - 3 = 0$

Options :

86435134531. 1
86435134532. 2
86435134533. 3
86435134534. 4

Question Number : 33 Question Id : 86435110577 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The inverse function of the consumption function C=m+nY is

1. Y/C = rC-S where r = 1/n & S= m/n
2. Y = rC-S where r = 1/n & S= m/n
3. 1/C = rC-S where r = 1/n & S= m/n
4. 1/Y = rC-S where r = 1/n & S= m/n

Options :
86435134535. 1
86435134536. 2
86435134537. 3
86435134538. 4

Question Number : 34 Question Id : 86435110578 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

In an economy, one will usually encounter the Fibonacci sequence in

1. Bank accounts
2. Stock markets
3. Perfect markets
4. Oligopoly markets

Options :
86435134539. 1
86435134540. 2
86435134541. 3
86435134542. 4

Question Number : 35 Question Id : 86435110579 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The Directorate of Economics and Statistics uses mathematics

1. for compilation of different price indices
2. in estimation of Gross State Domestic Products
3. in selection of an experimental plot for some selected crops
4. All of the above

Options :
86435134543. 1
86435134544. 2
86435134545. 3
86435134546. 4

Question Number : 36 Question Id : 86435110580 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The modern study of set theory was initiated by

1. Georg Cantor
2. Richard Dedekind
3. Newton
4. Both Georg Cantor and Richard Dedekind

Options :
86435134547. 1
86435134548. 2
86435134549. 3
86435134550. 4

Question Number : 37 Question Id : 86435110581 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

A solid cube is

1. a convex set
2. a non-convex set
3. an empty set
4. an infinite set

Options :
86435134551. 1
86435134552. 2
86435134553. 3
86435134554. 4

Question Number : 38 Question Id : 86435110582 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

If E represents the set of Consumption expenditure, then E = (Food, Clothes, Furniture, Travel) is

1. An example of application of set theory in economics
2. a constant elasticity demand function
3. an example of a Linear Expenditure system
4. An example of set theory called Linear Expenditure system

Options :
86435134555. 1
86435134556. 2
86435134557. 3
86435134558. 4

Question Number : 39 Question Id : 86435110583 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Who is known as the Father of Calculus?

1. Clairaut
2. Leibniz
3. Euler
4. Gauss

Options :
86435134559. 1
86435134560. 2
86435134561. 3
86435134562. 4

Question Number : 40 Question Id : 86435110584 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

A special type of shirt is manufactured in two colours, black and white and two different fabrics, cotton and synthetic. The total number of ordered pairs is

1. 2x2x2
2. 2x2
3. 4x2
4. 3x2

Options :
86435134563. 1
86435134564. 2
86435134565. 3
86435134566. 4

Question Number : 41 Question Id : 86435110585 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of the following relations identify as a function?

1. $y = 4x$
2. $y = \pm 2x$
3. $y^2 = 4x^2$
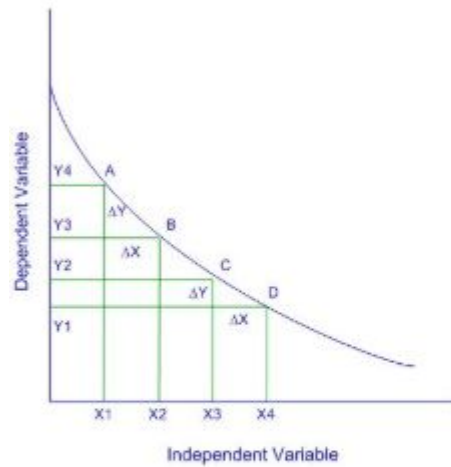4. *All of the above*

Options :
86435134567. 1
86435134568. 2
86435134569. 3
86435134570. 4

Question Number : 42 Question Id : 86435110586 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of the following is true for the following figure?

1. The function increases at an increasing rate
2. The function increases at a decreasing rate
3. The function decreases at an increasing rate
4. The function decreases at a decreasing rate

Options :
86435134571. 1
86435134572. 2
86435134573. 3
86435134574. 4

Question Number : 43 Question Id : 86435110587 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Given two sets A and B, the cartesian product is the set of ordered pairs with

1. the first element taken from A and the second element taken from B
2. the first element taken from B and the second element taken from A
3. Both 1 or 2 may be correct
4. None of the above

Options :

86435134575. 1

86435134576. 2

86435134577. 3

86435134578. 4

Question Number : 44 Question Id : 86435110588 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The possible relationships existing in a group of 4 persons will be

1. 8
2. 4
3. 16
4. 32

Options :

86435134579. 1

86435134580. 2

86435134581. 3

86435134582. 4

Question Number : 45 Question Id : 86435110589 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The total cost function of a firm is C = 100 +5Q and the maximum capacity is 50 units. The domain is

1. {Q|Q = 50}
2. {Q|0 ≤ Q ≤ 50}
3. {Q|0 ≤ Q ≤ 100}
4. {Q|50 ≤ Q ≤ 0}

Options :
86435134583. 1
86435134584. 2
86435134585. 3
86435134586. 4

Question Number : 46 Question Id : 86435110590 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The fixed cost is Rs. 5000 and variable cost is Rs.100 for each unit of a product produced. If total cost of production is Rs. 50,000, number of units produced is

1. 500
2. 450
3. 100
4. 150

Options :
86435134587. 1
86435134588. 2
86435134589. 3
86435134590. 4

Question Number : 47 Question Id : 86435110591 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The AK model production function is a special case of a Cobb–Douglas function with

1. Increasing returns to scale
2. Decreasing returns to scale
3. Constant returns to scale
4. None of the above

Options :
86435134591. 1
86435134592. 2
86435134593. 3
86435134594. 4

Question Number : 48 Question Id : 86435110592 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of the following is true regarding "information"?

1. It is an important input for decision-making
2. It is a set of facts and figures
3. There is demand for and supply of information
4. All of the above

Options :
86435134595. 1
86435134596. 2
86435134597. 3
86435134598. 4

Question Number : 49 Question Id : 86435110593 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of the following is an example of imperfect information?

1. Lemon problem
2. Risk and uncertainty
3. Perfect competition
4. Lemon Problem, risk and uncertainty

Options :
86435134599. 1
86435134600. 2
86435134601. 3
86435134602. 4

Question Number : 50 Question Id : 86435110594 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of the following is an example of an economic model?

1. Hoffman's Model for methane
2. Big-Five Personality Model
3. Circular Flow Model
4. All of the above

Options :
86435134603. 1
86435134604. 2
86435134605. 3
86435134606. 4

Question Number : 51 Question Id : 86435110595 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of the following can have a meaningful inverse function?

1. $D = a - bP$, D is quantity demanded and P is price
2. $C = n - mY$, C is consumption and Y is income
3. $T = \gamma Y$, Y is income, T is tax and Y is income
4. Both Demand function and Consumption function

Options :
86435134607. 1
86435134608. 2
86435134609. 3
86435134610. 4

Question Number : 52 Question Id : 86435110596 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

For the supply function $S = c + dP$, if Price is measured along the x axis, the curve starts from

1. The negative y axis
2. The negative x axis
3. The positive x axis
4. From the origin

Options :
86435134611. 1
86435134612. 2
86435134613. 3
86435134614. 4

Question Number : 53 Question Id : 86435110597 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

If C = a + mY, $\frac{\Delta C}{\Delta Y}$ > 1 means

1. an individual borrows money and consumption cannot be done within the available disposable income
2. change in consumption is greater than change in income
3. change in consumption is less than change in income
4. Both 1 and 2

Options :

86435134615. 1

86435134616. 2

86435134617. 3

86435134618. 4

Question Number : 54 Question Id : 86435110598 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Given the budget equation $B = xp_x + yp_y$ if the price of y increases, price of x and budget remaining the same (x is measured along the x axis and y is measured along the y axis)

1. The budget line shifts parallelly upward
2. The budget line become steep
3. The budget line becomes flat
4. The budget line shifts parallelly downward

Options :

86435134619. 1

86435134620. 2

86435134621. 3

86435134622. 4

Question Number : 55 Question Id : 86435110599 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Marginal Utility of money is defined as the utility derived by spending one unit of money. If marginal utility of money is 4 utils, what will be the money worth of a good with 20 utils?

1. Rs. 5
2. Rs. 10
3. Rs. 15
4. Rs. 20

Options :
86435134623. 1
86435134624. 2
86435134625. 3
86435134626. 4

Question Number : 56 Question Id : 86435110600 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Excess Supply may also be referred as

1. Demand
2. Negative Excess Demand
3. Supply > Demand
4. All of the above

Options :
86435134627. 1
86435134628. 2
86435134629. 3
86435134630. 4

Question Number : 57 Question Id : 86435110601 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The early contributors of the matrix theory were

1. James Joseph Sylsevter
2. Arthur Cayley
3. Frederick Gauss
4. James and Arthur

Options :
86435134631. 1
86435134632. 2
86435134633. 3
86435134634. 4

Question Number : 58 Question Id : 86435110602 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of the following are uses of matrix in economics?

1. Study a market
2. Study the interaction between industries in an economy
3. Study the connection between inputs and outputs of a production system
4. All of the above

Options :
86435134635. 1
86435134636. 2
86435134637. 3
86435134638. 4

Question Number : 59 Question Id : 86435110603 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Given is the following information on the sales of two products in two markets for 4 weeks

Market 1				
	Week 1	Week 2	Week 3	Week 4
Product X	10	5	12	8
Product Y	15	10	8	7
Market 2				
Product X	5	8	3	6
Product Y	4	7	5	3

The total sales for product X and Y are given by

1. $\begin{bmatrix} 10 & 5 & 12 & 8 \\ 15 & 10 & 8 & 7 \end{bmatrix}$

2. $\begin{bmatrix} 5 & 8 & 3 & 6 \\ 4 & 7 & 5 & 3 \end{bmatrix}$

3. $\begin{bmatrix} 15 & 13 & 15 & 14 \\ 19 & 17 & 13 & 10 \end{bmatrix}$

4. $\begin{bmatrix} 15 & 19 & 17 & 10 \\ 13 & 15 & 14 & 14 \end{bmatrix}$

Options :

86435134639. 1

86435134640. 2

86435134641. 3

86435134642. 4

Question Number : 60 Question Id : 86435110604 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Given

	Product X (1 unit)	Product Y (1 unit)
Labour	4	6
Capital	1	2

If the price of labour is Rs. 50 per unit and price of capital is Rs. 100 per unit, the total cost of producing X is

1. 500
2. 200
3. 300
4. 700

Options :
86435134643. 1
86435134644. 2
86435134645. 3
86435134646. 4

Question Number : 61 Question Id : 86435110605 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

If demand function is q = 50-5p then price elasticity at p=5 will be

1. 0
2. 1
3. 5
4. 50

Question Number : 62 Question Id : 86435110606 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

If income elasticity e_i > 1, then Goods are

1. Luxury
2. Necessary
3. Inferior
4. Can't be determined

Options :

86435134651. 1

86435134652. 2

86435134653. 3

86435134654. 4

Question Number : 63 Question Id : 86435110607 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

If q= f (x, y) is homogeneous function of degree n then the following is the correct Euler's Theorem representation

1. $x\frac{\partial q}{\partial x} + y\frac{\partial q}{\partial y} = nq$

2. $1/x \left(\frac{\partial q}{\partial x}\right) + 1/y \frac{\partial q}{\partial y} = nq$

3. $x\frac{\partial q}{\partial x} + y\frac{\partial q}{\partial y} = n/q$

4. $1/x \left(\frac{\partial q}{\partial x}\right) + 1/y \frac{\partial q}{\partial y} = n/q$

Options :

86435134655. 1

86435134656. 2
86435134657. 3
86435134658. 4

Question Number : 64 Question Id : 86435110608 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The slope of an isoquant for two factors labour and capital, labour on the x-axis, is given as

1. $\frac{\Delta K}{\Delta L}$

2. $\frac{MP_L}{MP_K}$

3. Both 1 and 2

4. $\frac{\Delta L}{\Delta K}$

Options :

86435134659. 1
86435134660. 2
86435134661. 3
86435134662. 4

Question Number : 65 Question Id : 86435110609 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The following is the minimum value of the function $y = x^2 - 6x + 3$

1. -6

2. 6

3. 3

4. -3

Options :

86435134663. 1
86435134664. 2
86435134665. 3

86435134666. 4

Question Number : 66 Question Id : 86435110610 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

For given production function q = f (L, K) = $L^{2/3}K^{2/3}$; the following will be the slope of Isoquant curve

1. K/L
2. 2K/L
3. -2K/L
4. K/2L

Options :
86435134667. 1
86435134668. 2
86435134669. 3
86435134670. 4

Question Number : 67 Question Id : 86435110611 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Slope of the function y = −2 + 3x

1. -0.2
2. 0.2
3. -1.2
4. 3

Options :
86435134671. 1
86435134672. 2
86435134673. 3
86435134674. 4

Question Number : 68 Question Id : 86435110612 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The derivative of a function $y = f(x)$ is expressed as

1. $\dfrac{dy}{dx} = f'(x) = \lim\limits_{\Delta x \to \infty} \dfrac{\Delta y}{\Delta x}$

2. $\dfrac{dy}{dx} = f'(x) = \lim\limits_{\Delta x \to 0} \dfrac{\Delta y}{\Delta x}$

3. $\dfrac{dy}{dx} = f'(x) = \lim\limits_{\Delta x \to 0} \dfrac{\Delta x}{\Delta y}$

4. $\dfrac{dx}{dy} = f'(x) = \lim\limits_{\Delta x \to 0} \dfrac{\Delta x}{\Delta y}$

Options :

86435134675. 1

86435134676. 2

86435134677. 3

86435134678. 4

Question Number : 69 Question Id : 86435110613 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Total differential of y is given as

1. $dy = \dfrac{\partial y}{\partial x_1} dx_1 + \dfrac{\partial y}{\partial x_2} dx_2$

2. $dy = \dfrac{\partial y}{\partial x_2} dx_1 + \dfrac{\partial y}{\partial x_1} dx_2$

3. $dy = \dfrac{\partial x_1}{\partial y} dx_1 + \dfrac{\partial x_2}{\partial y} dx_2$

4. None of the above

Options :

86435134679. 1

86435134680. 2

86435134681. 3

86435134682. 4

Question Number : 70 Question Id : 86435110614 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Jacobian Matrix is

1. the matrix of all first-order partial derivatives
2. the matrix of all second -order partial derivatives
3. the matrix of all total derivatives
4. the matrix of first-order and second order partial derivatives

Options :
86435134683. 1
86435134684. 2
86435134685. 3
86435134686. 4

Question Number : 71 Question Id : 86435110615 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Sufficient condition for a maximum is

1. $\frac{d^2y}{dx^2} < 0$

2. $\frac{d^2y}{dx^2} > 0$

3. $\frac{d^2y}{dx^2} = 0$

4. None of the above

Options :
86435134687. 1
86435134688. 2
86435134689. 3
86435134690. 4

Question Number : 72 Question Id : 86435110616 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which of the following is a case of stationary inflection point?

1. $\dfrac{dy}{dx} = 0$ and $\dfrac{d^2 y}{dx^2} = 0$

2. $\dfrac{dy}{dx} \neq 0$ and $\dfrac{d^2 y}{dx^2} = 0$

3. $\dfrac{dy}{dx} > 0$ and $\dfrac{d^2 y}{dx^2} > 0$

4. $\dfrac{dy}{dx} = 0$ and $\dfrac{d^2 y}{dx^2} > 0$

Options :

86435134691. 1

86435134692. 2

86435134693. 3

86435134694. 4

Question Number : 73 Question Id : 86435110617 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

The sufficient condition for producer's equilibrium is

1. $\dfrac{d^2 (TR)}{dQ^2} < \dfrac{d^2 (TC)}{dQ^2}$

2. $\dfrac{d^2 (TR)}{dQ^2} > \dfrac{d^2 (TC)}{dQ^2}$

3. $\dfrac{d^2 (TR)}{dQ^2} = \dfrac{d^2 (TC)}{dQ^2}$

4. AC = MC

Options :

86435134695. 1

86435134696. 2

86435134697. 3

86435134698. 4

Question Number : 74 Question Id : 86435110618 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

If the cross elasticity of demand is less than zero, the goods are

1. Substitutes
2. Complementary
3. Inferior
4. Giffen

Options :

86435134699. 1

86435134700. 2

86435134701. 3

86435134702. 4

Question Number : 75 Question Id : 86435110619 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

$Given\ Y = C + I$ and $C = \alpha + \beta Y$, Y is national income, C is consumption and I is investment, α and β are parameters. If there is an investment of Rs. 1000 and the rate of consumption with respect to income is 0.5, the equilibrium income is

1. 1500
2. 2000
3. 2500
4. 500

Options :

86435134703. 1

86435134704. 2

86435134705. 3

86435134706. 4

Question Number : 76 Question Id : 86435110620 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Match the following

I. T. C. Koopmans	A. Development of simplex algorithm
II. Narendra Karmarkar	B. Proposed theory of duality in linear programming
III. John von Neumann	C. Formulated classical economic problems as linear programs
IV. George B. Dantzig	D. Introduced a new interior-point method to solve linear programming problems

Choose the **correct** answer from the options given below:

1. I-C II-D III-B IV-A
2. I-D II-C III-B IV-A
3. I-A II-B III-C IV-D
4. I-B II-D III-C IV-A

Options :
86435134707. 1
86435134708. 2
86435134709. 3
86435134710. 4

Question Number : 77 Question Id : 86435110621 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Linear programing may be applied

1. In organizing and operating a farm for maximum production and profit.
2. To attain material efficiency in construction
3. To reduce the transportation cost.
4. All of the above

Question Number : 78 Question Id : 86435110622 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of the following is not an assumption of linear programming?

1. The quantities of the decision variables obtained must be continuous and divisible.
2. The value of the objective function and the constraints used in the LP model is the sum of the individual contributions of the choice variables
3. The parameters used in the model, such as availability of resources, profit, cost, time, per unit contribution are known
4. The choice variables are non-linearly related

Options :

86435134715. 1

86435134716. 2

86435134717. 3

86435134718. 4

Question Number : 79 Question Id : 86435110623 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The Simplex method is used to solve

1. problems with more than two choice variables
2. non-linear problems
3. problems with equality constraints
4. problems with quadratic equations

Options :

86435134719. 1
86435134720. 2
86435134721. 3
86435134722. 4

Question Number : 80 Question Id : 86435110624 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of the following is true?

1. All points in the feasible region are feasible solutions
2. All points in the feasible region are optimum solutions
3. All points in the feasible region are bounded
4. All are true

Options :
86435134723. 1
86435134724. 2
86435134725. 3
86435134726. 4

Question Number : 81 Question Id : 86435110625 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

A definite integral of a function with interval [a, b], where a is the lower limit and b is the upper limit, is written as

1. $\int_b^a f(x)\,dx$
2. $\int f(a - b)\,dx$
3. $\int f(b - a)\,dx$
4. $\int_a^b f(x)\,dx$

Question Number : 82 Question Id : 86435110626 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The maximum value or minimum value for the entire range of a function is called

1. Global maximum
2. Global minimum
3. Global extremum
4. Local extremum

Question Number : 83 Question Id : 86435110627 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

If $y = f(x)$ and $\frac{dy}{dx} > 0$ and $\frac{d^2y}{dx^2} < 0$, then

1. Value of the function tends to is decrease at a decreasing rate or it is downward concave
2. Value of the function tends to increase at a decreasing rate or it is upward concave
3. Value of the function tends to decrease at an increasing rate or it is downward convex
4. Value of the function tends to increase at an increasing rate or it is upward convex

86435134737. 3

86435134738. 4

Question Number : 84 Question Id : 86435110628 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

If $y = 5x^2 - 40x + 20$, what value of x minimizes the function?

1. x = 4

2. x = 3

3. x = 2

4. x = 1

Options :

86435134739. 1

86435134740. 2

86435134741. 3

86435134742. 4

Question Number : 85 Question Id : 86435110629 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The sufficient condition for producer's equilibrium is

1. Slope of MR > Slope of MC

2. Slope of MR < Slope of MC

3. Slope of MR = Slope of MC

4. Slope of AR < Slope of AC

Options :

86435134743. 1

86435134744. 2

86435134745. 3

86435134746. 4

Question Number : 86 Question Id : 86435110630 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

For the given function $z = 3x^2 - 12x + 4xy + 2y^2 - 8y + 100$, the values $x = 2$ and $y = 0$

_____ the function

1. Maximizes
2. Minimizes
3. Stabilizes
4. Destabilizes

Options :
86435134747. 1
86435134748. 2
86435134749. 3
86435134750. 4

Question Number : 87 Question Id : 86435110631 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Identify the matrix $\begin{bmatrix} \frac{\partial y_1}{\partial x_1} & \cdots & \frac{\partial y_1}{\partial x_n} \\ \vdots & \ddots & \vdots \\ \frac{\partial y_n}{\partial x_1} & \cdots & \frac{\partial y_n}{\partial x_n} \end{bmatrix}$

1. Hessian Matrix
2. Jacobian Matrix
3. Scalar Matrix
4. Triangular Matrix

Options :
86435134751. 1
86435134752. 2
86435134753. 3
86435134754. 4

Question Number : 88 Question Id : 86435110632 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

In the health care field, _____may be used to develop balanced diets at lesser costs and adhering to a set of minimum nutritional requirements

1. Integration
2. Linear Programming
3. Game theory
4. Derivative

Options :
86435134755. 1
86435134756. 2
86435134757. 3
86435134758. 4

Question Number : 89 Question Id : 86435110633 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

The first model of a linear programming problem was developed by_____, to solve _____problems

1. George B. Dantzig, health
2. George B. Dantzig, military logistics
3. Joseph Fourier, military logistics
4. Joseph Fourier, health

Options :
86435134759. 1
86435134760. 2
86435134761. 3
86435134762. 4

Question Number : 90 Question Id : 86435110634 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The values of x and y at the point of intersection of equations $x + y = 4$ and $2x + y = 6$ are

1. $x = 0$ and $y = 0$
2. $x = 2$ and $y = 1$
3. $x = 1$ and $y = 2$
4. $x = 2$ and $y = 2$

Options :

86435134763. 1

86435134764. 2

86435134765. 3

86435134766. 4

Question Number : 91 Question Id : 86435110635 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

_____ is thought off as the world's first programmer

1. Ada Lovelace
2. Alan Turing
3. Charles Babbage
4. Steve Jobs

Options :

86435134767. 1

86435134768. 2

86435134769. 3

86435134770. 4

Question Number : 92 Question Id : 86435110636 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

The word "algorithm" which means step by step method of solving a problem is named after

1. Al-Khwarizmi
2. Alabama
3. Al Gore
4. Al-Madad

Options :

86435134771. 1
86435134772. 2
86435134773. 3
86435134774. 4

Question Number : 93 Question Id : 86435110637 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

FOSS simply mean

1. free open sources software
2. free open sources system
3. free open software system
4. fair oath software system

Options :

86435134775. 1
86435134776. 2
86435134777. 3
86435134778. 4

Question Number : 94 Question Id : 86435110638 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The first computing machine created and used for simple calculations was

1. Super Computer
2. Abacus
3. Calculator
4. Analytical Engine

Options :

86435134779. 1
86435134780. 2
86435134781. 3
86435134782. 4

Question Number : 95 Question Id : 86435110639 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Computation originated from the latin word 'computare'; where com means

1. bits
2. together
3. to settle
4. calculation

Options :

86435134783. 1
86435134784. 2
86435134785. 3
86435134786. 4

Question Number : 96 Question Id : 86435110640 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

C, BASIC, COBOL, and Java are examples of ....language

1. low-level
2. programming
3. computer
4. high-level

Options :
86435134787. 1
86435134788. 2
86435134789. 3
86435134790. 4

Question Number : 97 Question Id : 86435110641 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

MS – Excel is a powerful

1. Word processing package
2. Spreadsheet package
3. Communication software package
4. Database Management System package

Options :
86435134791. 1
86435134792. 2
86435134793. 3
86435134794. 4

Question Number : 98 Question Id : 86435110642 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

WYSIWYG is an acronym for what?

1. What You Saw Is What You Got
2. What You See Is What You Get
3. What You Seen Is What You Gotten
4. What You Sow Is What You Get

Options :
86435134795. 1
86435134796. 2
86435134797. 3
86435134798. 4

Question Number : 99 Question Id : 86435110643 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Options :
86435134799. 1
86435134800. 2
86435134801. 3
86435134802. 4

Question Number : 100 Question Id : 86435110644 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Options :
86435134803. 1
86435134804. 2
86435134805. 3
86435134806. 4