Jawaharlal Nehru University

MA Economics

Past Year Papers | 2013 – 2021

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Contents

JNU SIS 2013

Question 1

Kiran's utility function is $U(x_1; x_2) = 2\ln(x_1) + x_2$. Given her current income and the current relative prices, she consumes 10 units of x_1 and 15 units of x_2. If her income doubles, while prices stay constant, how many units of x_1 will she consume after the change in income?

A. 20

B. 5

C. 10

D. The information given is not enough to determine

Question 2

Manik's utility function on goods x and y is $U(x; y) = \sqrt{x} + \sqrt{y}$. Prices of x and y are given as $p_x = 5$ and $p_y = 1$. Assume that Manik's income is equal to 60 . What is his optimal consumption of the two goods?

A. $x = 5, y = 35$

B. $x = 4, y = 40$

C. $x = 0, y = 60$

D. $x = 2, y = 50$

Question 3

A car manufacturing company wants to decide where to locate a new plant. The only inputs used in cars are steel and labour, and the production function is $f(S, L) = S^{\frac{1}{2}}L^{\frac{1}{2}}$ where S is tons of steel and L is units of labour. The company can locate its plant either in country A or in country B. In country A, steel costs Rs 70 a ton and labour costs Rs 70 per unit. In country B, steel costs Rs 80 per ton and labour costs Rs 60 per unit. In which of the two countries should the company locate its new plant?

A. Country A

B. Country B

C. It is indifferent between country A and country B

D. The information given is not sufficient to determine

Question 4

A monopolist has constant marginal costs at Re 1 per unit, and zero fixed costs. It faces the demand curve $D(p) = \begin{cases} \frac{100}{p}, & p \leq 20 \\ 0, & p > 20 \end{cases}$ where p is price. What is the profit maximizing choice of output?

A. 20

B. 5

C. 1/99

D. 10

Question 5

If the government could set a price ceiling on the above monopolist (in Question No. 4) in order to force it to act as a competitor, what price should it set?

A. 10

B. 20

C. 1

D. None of the above

Question 6

The rank of the matrix $C = A'B'$, where

$$A = \begin{pmatrix} 3 & 1 & 2 \\ 1 & 1 & 0 \\ 2 & 1 & 3 \end{pmatrix} \text{ and } B = \begin{pmatrix} 0 & 1 & 0 \\ 4 & 2 & 3 \end{pmatrix}$$

is

A. 0

B. 1

C. 2

D. 3

Question 7

If the matrix

$$\begin{pmatrix} -4 & 2 & 0 \\ -6 & a & 1 \\ 0 & 1 & 1 \end{pmatrix}$$

is singular, the value of a must be

A. 1

B. 2

C. 3

D. 4

Question 8

$\lim_{x \to 0} \left(\frac{e^x - 1}{x}\right)$ is equal to

A. 1

B. 0

C. Does not exist

D. Cannot be calculated

Question 9

Let

$$f(x) = \begin{cases} x+4, & x < 0 \\ x^2, & 0 \leq x < 5 \\ 7, & x \geq 5 \end{cases}$$

The area from $x = -6$ to $x = 8$ under the graph $f(x)$ is

A. 130/3

B. 206/3

C. 206

D. 106

Question 10

If flour is an inferior good; then

A. an increase in income will decrease the demand for flour

B. the demand for flour is negatively related to income

C. the income elasticity of flour is negative

D. All of the above

Question 11

Consider five urns numbered 1 to 5, where each urn contains 10 balls. Urn 1 has i defective balls and $(10 - i)$ nondefective balls. In an experiment, an urn is selected at random, and then a ball is selected at random from that urn. What is the probability that a defective ball is selected? If the ball is defective, what is the probability that it came from urn 2 ?

A. 7/10; 2/5

B. 3/10; 2/15

C. 1/5; 3/25

D. 3/5; 2/5

Question 12

The probability density function of a continuous random variable is given as

$$f(x) = \begin{cases} x, & 0 \leq x < 1 \\ 2 - x, & 1 \leq x < 2 \end{cases}$$

Then the probability of $p\left(\frac{1}{3} \leq x \leq \frac{5}{3}\right)$ and $p(x \geq 1)$ are

A. 7/18; 0

B. 8/9; 1

C. 8/9; 1/2

D. 5/9; 1/2

Question 13

A card is selected at random from an ordinary deck of cards. If an ace is drawn, you win Rs 100 ; if a king is drawn, you win Rs 75 ; if a queen is drawn, you win Rs 50 ; and if a jack is drawn, you win Rs 25 . What is the probability of winning at least Rs 25 ? What would you expect to win on average?

A. 1/4; Rs $62 \cdot 50$

B. 4/13; Rs $62 \cdot 50$

C. 1/13; Rs $19 \cdot 23$

D. 4/13; Rs 19:23

Question 14

The probability mass function of a discrete random variable is given as $f(x) = \frac{1}{5}$ for $x = 1, 2, 3, 4, 5$ and zero elsewhere. The mean and variance of the distribution are

A. 3; 2

B. 3; 11

C. 3; 9

D. 3; 3

Question 15

A worker's utility is increasing in wages received and decreasing in the effort exerted. What is the shápe of the indifference curve in the wage-effort space?

A. Upward sloping

B. Downward sloping

C. Straight line parallel to the X -axis

D. Straight line parallel to the Y -axis

Question 16

When there is a Keynesian aggregate supply curve, an increase in aggregate demand results in proportional increase in

A. the price level, as long as output is below its full employment level

B. real output, as long as output is below its full employment level

C. real output, once output is at its full employment level

D. the cost of producing real output, as long as output is below its full employment level

Question 17

An increase in aggregate demand results in an increase in output

A. and in the price level, when there is a Keynesian aggregate supply curve

B. and no change in the price level, when aggregate supply curve is vertical

C. and in the price level, when aggregate supply curve is positively sloped

D. and no change in the price level, when aggregate supply curve is positively sloped

Question 18

In the flexible version of quantity theory of money

A. changes in the velocity of money are closely associated with changes in the money supply

B. changes in the price level are closely associated with changes in the money supply

C. changes in nominal GDP are proportional to changes in velocity

D. changes in nominal GDP are closely associated with changes in money supply

Question 19

Suppose full employment level of output is Rs 680 , the equilibrium level of output is Rs 600 and the marginal propensity to consume is 0.80. Full employment output can be achieved by Rs 16 increase in government spending. Which of the following changes in net lump sum tax revenues result in full employment output?

A. A Rs 20 decrease

B. A Rs 20 increase

C. A Rs 16 increase

D. A Rs 16 decrease

Question 20

The fixed labour requirements per unit of wine and clothing production before trade for England and Portugal are given below :

	Wine	Clothing
England	6	10
Portugal	3	5

If trade opens up between England and Portugal, what will be the pattern of trade according to comparative advantage?

A. England exports clothing and Portugal exports wine

B. England exports wine and Portugal exports clothing

C. Neither country will trade in any good

D. Cannot say

Question 21

If the home marginal propensity to consume exportable is greater than the elasticity of the foreigner's offer curve, then in the absence of inferior goods, a tariff

A. lowers the domestic prices of importable

B. increases the domestic prices of importable

C. No impact on domestic prices

D. Cannot say

Question 22

"The average income of the people in province A is greater than the average income of the people in province B. Some people migrate from province A to province B and as a result the average income of both the provinces rise." Is the statement feasible?

A. This can never happen

B. This will always happen

C. This is possible if the richer people of province A migrate to province B

D. None of the given options

Question 23

"All those who have a good voice are good singers." This statement logically implies

A. all those who do not have a good voice are not good singers

B. all those who are not good singers do not have a good voice

C. all those who are good singers have a good voice

D. All of the given options

Question 24

There are two countries A and B with their currencies denoted as 'A\$' and 'B\$' respectively. Their nominal exchange rates in terms of US Dollars (USD) are as follows: A\$ 50 = USD 1; $B\$1$ = USD $1 \cdot 5$ The nominal prices of petrol per litre in the two countries are A\$ 75 per litre and B\$ 1 per litre respectively. It is reported that in purchasing power parity (PPP) terms, petrol prices are three times higher in country A than in country B. Compare a resident of country A earning As 50,000 per month with a resident of country B earning B 2,000 per month. In PPP terms

A. resident of country A is better off than resident of country B

B. resident of country A is at par with resident of country B

C. resident of country A is worse off than resident of country B

D. Cannot say

Question 25

The equation for the IS curve is given as

$$Y = \frac{c_0 + b_0 + \bar{G}}{1 - c_1(1-t)} - \frac{b_1}{1 - c_1(1-t)} i$$

and that for the LM curve is given as

$$i = \frac{1}{m_2}\left(m_0 - \frac{M^S}{P} + m_1 Y\right)$$

where Y is income, i is the rate of interest, P is the price level, M^S is money supply and $\bar{G}$ denotes government spending. Further, let $\frac{1}{1-c_1(1-t)} = \lambda$. Then the expression for the aggregate demand function and its slope will be

A. $Y = \frac{m_2\lambda}{m_1+\lambda b_1 m_2}\left(c_0 + b_0 + \bar{G}\right) - \frac{b_1\lambda}{m_1+\lambda b_1 m_2}\left(m_0 - \frac{M^S}{P}\right)$; negative

B. $Y = \frac{m_1\lambda}{m_2+\lambda b_1 m_1}\left(c_0 + b_0 + \bar{G}\right) - \frac{m_1\lambda}{m_2+\lambda b_1 m_1}\left(m_0 - \frac{M^S}{P}\right)$; positive

C. $Y = \frac{m_2\lambda}{m_2+\lambda b_1 m_1}\left(c_0 + b_0 + \bar{G}\right) - \frac{b_1\lambda}{m_2+\lambda b_1 m_1}\left(m_0 - \frac{M^S}{P}\right)$; negative

D. $Y = \frac{b_1 m_2\lambda}{m_2+\lambda b_1 m_2}\left(c_0 + b_0 + \bar{G}\right) - \frac{b_1 m_2\lambda}{m_2+\lambda b_1 m_2}\left(m_0 - \frac{M^S}{P}\right)$; positive

JNU SIS 2014

Question 1

If $\lim_{x \to 3} f(x) = 7$, then

A. $f(x)$ is continuous at $x = 3$

B. $f(x)$ is differentiable at $x = 3$

C. $f(3) = 7$

D. None of the above

Question 2

Suppose A is a 5×2 matrix, B is an $r \times s$ matrix and C is a $p \times 3$ matrix. If $A' * B * C'$ is defined, which of the following is true?

A. $r = 2, s = 5$

B. $r = 3, s = 4$

C. $r = 5, s = 3$

D. $r = 3, s = 5$

Question 3

If the matrix $\begin{pmatrix} 1 & 2 & 1 \\ 2 & 0 & \alpha \\ 1 & \alpha & 1 \end{pmatrix}$ is singular, the value of α must be

A. 1

B. 2

C. 3

D. 4

Question 4

The real valued function $f(c) = (c + 2)^3 - 8$ has a point of inflexion

A. at -2

B. at 2

C. at 8

D. nowhere on the real line

Question 5

Suppose that in a particular market, the supply curve is highly elastic and the demand curve is highly inelastic. If a tax is imposed in this market, then

A. the buyers will bear a greater burden of the tax than the sellers

B. the sellers will bear a greater burden of the tax than the buyers

C. the buyers and sellers are likely to share the burden of the tax equally

D. the buyers and sellers will not share the burden equally, but it is impossible to determine who will bear the greater burden of the tax without more information

Question 6

A firm faces the following long-run cost function :

$$\text{TC} = q^3 - 40q^2 + 450q$$

The average cost AC will be at its minimum, when

A. $q = 10$ and $AC = 20$

B. $q = 40$ and $AC = 60$

C. $q = 40$ and $AC = 10$

D. $q = 20$ and $AC = 50$

Question 7

A firm is employing 100 units of labour and 50 units of capital to produce 200 pens. Labour costs 10 per unit and capital $F5$ per unit. For the quantities of inputs employed, $MP_L = 2$ and $MP_K = 5$. In this situation, the firm

A. is producing the maximum output possible given the prices and relative productivities of the inputs

B. could lower its production costs by using more labour and less capital

C. could increase its output at no extra cost by using more capital and less labour

D. should use more of both inputs in equal proportions

Question 8

Which of the following is correct?

A. In the long run, a firm in monopolistic competition earns zero economic profit and its price is equal to the minimum average total cost

B. In the long run, a firm in monopolistic competition can earn an economic profit because of product differentiation

C. In the long run, a firm in perfect competition operates at maximum average total cost

D. In the long run, a firm in monopolistic competition maximizes its profit at a point where price is equal to average total cost but the average total cost is not minimized

Question 9

Total revenue from the sale of a commodity is given by $R = 100x - 2x^2$, where x is the quantity of the commodity. Hence, the point elasticity of demand, when marginal revenue is 20 , is

A. -0.5.

B. -1

C. -1.5

D. -2

Question 10

In a model with two goods, x and y, with x plotted on the horizontal axis, the price consumption curve generated by changing the price of x is parallel to the x -axis. This implies that

A. the demand for x is infinitely elastic

B. the demand for y has zero elasticity

C. the demand for x has elasticity $= -1$

D. the demand for y has elasticity $= -1$

Question 11

The probabilities that A and B speak the truth independently are 0.6 and 0.8 respectively. If they make the same statement, S, then the probability that the statement S is indeed true is

A. 2/7

B. 12/25

C. 6/7

D. 6/25

Question 12

A random variable X has a uniform (rectangular) distribution over the range $0 < x < 10$. Then the probabilities $P(x = 5)$ and $P(|x| < 5)$ are

A. 0 and 0.5

B. 0.5 and 0.5

C. 0.5 and 0

D. $0 \cdot 1$ and 0.5

Question 13

An unbiased die is tossed twice. The probability of obtaining 6 at least once is

A. 7/36

B. 1/6

C. 10/36

D. 11/36

Question 14

Twelve persons are seated in a circle. The probability that there are exactly three persons seated between A and B is

A. 3/11

B. 9/11

C. 2/11

D. 5/11

Question 15

The probability mass function of a random variable is given to be $f(x) = x/15$ for $x = 1, 2, 3, 4, 5$; and zero elsewhere. Then the mean of the distribution is

A. 3

B. 5/2

C. 11/3

D. 15/2

Question 16

In deriving the aggregate demand curve, a − in the price level leads to a/an - in the real money supply, because the nominal quantity of rupees can purchase goods and services.

A. decline; increase; more

B. decline; decrease; more

C. rise; increase; fewer

D. rise; decrease; more

Question 17

Let the following represent the structure of a small open economy with a fixed exchange rate :

$$C = 40 - 6 * r + 0 \cdot 8(Y - T)$$
$$T = 25 + 0 \cdot 2Y$$
$$I_P = 60 - 4 * r$$
$$G = 50$$
$$NX = 110 - 0.04 * Y - 20 * e$$
$$(M/P)^D = 0 \cdot 2 * Y - 5 * r$$
$$M^S/P = 60$$
$$e = 2$$

where C is consumption, Y is output, T is taxes, G is government expenditure, I_P is planned investment, r is rate of interest, NX is net exports, $(M/P)^D$ is demand for real balances, M^S/P is real money supply. Initially, assume that the foreign and domestic interest rates are equal, or that $r = r^f$. The IS and LM equations in terms of the domestic interest rate r can be expressed as

A. $IS : Y = 500 - 50 * r$ and $LM : Y = 300 + 50 * r$

B. IS: $Y = 300 - 5 * r$ and $LM : Y = 500 + 5 * r$

C. $IS : Y = 500 - 25 * r$ and $LM : Y = 300 + 25 * r$

D. IS: $Y = 800 - 15 * r$ and $LM : Y = 1000 + 15 * r$

Question 18

Which of the following is true of the relationship between the IS curve and the AD curve?

A. The commodity market must be in equilibrium along the IS curve but it may not be in equilibrium along the AD curve

B. An increase in government spending will shift the IS curve but it will not shift the AD curve

C. The steeper the IS curve, the steeper the AD curve

D. A horizontal shift of the AD curve is typically greater than the horizontal shift in the IS curve due to crowding out

Question 19

Which among the following two effects can stabilize the economy (by raising aggregate demand) when prices fall?

A. Keynes effect and Pigou effect

B. Keynes effect and Expectations effect

C. Expectations effect and Redistribution effect

D. Redistribution effect and Pigou effect

Question 20

Consider two economies that are identical with the exception that one has a high marginal propensity to consume (MPC) and the other has a low MPC. If the money supply is increased by the same amount in each economy, the high MPC economy will experience

A. a larger increase in output and a smaller decrease in interest rate

B. a smaller increase in output and a smaller decrease in interest rate

C. a larger increase in output and a larger decrease in interest rate

D. a smaller increase in output and a larger decrease in interest rate

Question 21

A devaluation of a currency under the fixed exchange rate regime is likely to have no impact on the balance of trade, if

A. home and foreign offer curves are elastic

B. home and foreign offer curves are inelastic

C. home and foreign elasticity of the offer curves sum to unity

D. All of the above

Question 22

The Stolper-Samuelson theorem states that an imposition of a tariff by the home country on its imports, which is capital-intensive, gives rise to

A. an increase in the nominal reward of labour

B. a fall in the nominal reward of capital

C. an increase in the real reward of capital

D. an increase in the real reward of labour

Question 23

If an economy produces two goods, X and Y, with two factors of production, K and L, where X is labour-intensive good and Y is capital-intensive good and if the factor intensities of production of the goods are different at any factor price range and are nonreversible, then under the assumption of constant returns to scale, an increase in the supply of labour at constant commodity prices gives rise to

A. an absolute increase in the production of X and an absolute decrease in the production of Y

B. an absolute increase in the production of both X and Y

C. an absolute increase in the production of Y and an absolute decrease in the production of X

D. an equiproportionate increase in the production of X and Y

Question 24

Free trade is the optimal trading policy for

A. small country

B. large country

C. both small and large countries

D. Cannot say anything

Question 25

Consider a Ricardian world of two countries, Germany and Italy,, capable of producing two goods, steel and shoes. The labour availability and labour requirements to produce one ton of steel and a pair of shoes respectively in Germany and Italy are given below:

Country	Total Labour Available	Labour Needed to Produce	
		Pair of Shoes	Ton of Steel
Germany	160	10	5
Italy	60	15	3

Then the pre-trade relative prices are

A. determined by. the demand behaviour of the economy

B. determined by the composition of production of the economy

C. independent of the demand behaviour of the economy

D. dependent on the social utility function

JNU SIS 2015

Question 1

Technological change that increases the average and marginal productivity of labour in the classical model would cause

A. labour demand, output and price level to rise

B. labour demand to fall, price level to fall and output to rise

C. labour demand, output and employment to rise

D. output to rise but labour demand to fall

Question 2

In the monetarist view, the long-run Phillips curve is

A. horizontal

B. vertical

C. downward sloping but steeper than the short-run curve

D. downward sloping but flatter than the short-run curve

Question 3

In the Keynesian view

A. the short-run and the long-run Phillips curves are downward sloping

B. the short-run Phillips curve is vertical but the long-run Phillips curve is downward sloping

C. the short-run Phillips curve is downward sloping but the long-run Phillips curve is vertical

D. both the short-run and the long-run Phillips curves are vertical

Question 4

If the marginal propensity to save is equal to 0.4 in the simple Keynesian model, then a 10 -unit increase in taxes will cause output to fall by

A. 5 units

B. 10 units

C. 15 units

D. 40 units

Question 5

Using the simple Keynesian model, consider the case where taxes are a function of income such that $T = 50 + tY$, where t is the marginal tax rate. Compared to the model without taxes, the investment multiplier in this model will be

A. same

B. larger

C. smaller

D. equal to 1

w

Question 6

In the Keynesian model with both a variable price level and money wage, the aggregate supply function will be

A. upward sloping but flatter than the variable price/fixed wage version of the model

B. upward sloping but steeper than the variable wage/ fixed price version of the model

C. vertical

D. horizontal

Question 7

Which of the following is NOT an assumption of the Harrod-Domar model?

A. Diminishing returns to input

B. Fixed proportions of inputs

C. Constant savings rate

D. Exogenous capital-output ratio

Question 8

Which of the following is NOT an investment in human capital?

A. Older workers return to school to update their skills

B. An advertising agency replaces its secretaries' typewriters with personal computers

C. A precision tool company teaches all its workers how to repair all the machines in the factory

D. Local governments begin providing free hepatitis vaccinations to all residents

Question 9

In the Keynesian model, if an increase in government spending of 40 units accompanied by an equal increase in taxes caused equilibrium income to rise by 40 units, the autonomous expenditure multiplier must be

A. 10

B. 1

C. 4

D. not enough information given to calculate the multiplier

Question 10

An exogenous growth may be welfare reducing if

A. the exportable good expands faster than the importable good

B. the growth is due to technical progress

C. the terms of trade deteriorates so much that the home real income declines

D. the marginal propensity to consume importable is negative

Question 11

Compendium and Petibonum have just started to trade with each other. Compendium exports goods produced with skilled labour and imports goods made with unskilled labour from Petibonum. Overtime, we would expect that the wages of skilled labour in Compendium will

A. rise, and the wages of unskilled labour in Compendium will fall

B. fall, and the wages of unskilled labour in Compendium will rise

C. rise, and the wages of unskilled labour in Compendium will rise

D. fall, and the wages of unskilled labour in Compendium will fall

Question 12

Given all the necessary assumptions of the Heckscher-Ohlin-Samuelson theory of trade, free trade leads to complete equalization of factor prices in the two trading countries if

A. there is complete specialization in production in both countries

B. there is no factor intensity reversals

C. the two endowment ratios lie within the same cone of diversification

D. there is transportation cost

Question 13

The necessary condition for the Metzler paradox to hold in the absence of inferior goods requires that

A. the home marginal propensity to consume is negative

B. the foreign import demand is inelastic

C. the home import demand is elastic

D. None of the above

Question 14

If the production transformation satisfies the convexity properties, then some trade can be shown to be better than no trade

A. only for a large country

B. only for a small country

C. irrespective of the size of the country

D. None of the above

Question 15

Consider the offer curve below where home exports are shown in the horizontal axis and the home imports are shown in the vertical axis: The elasticity of the import demand then is

A. OC/OB

B. OB/BC

C. OC/BC

D. None of the above

Question 16

A trade diverting custom union is necessarily welfare decreasing for a country, if the custom union formation allows for

A. consumption and production substitution possibilities

B. only consumption substitution

C. no consumption and production substitution

D. only production substitution

Question 17

Suppose that demand in the market for economics books is $Q_D = \max\{0, 3000 - 4P\}$ and supply is $Q_S = \max\{0, -1000 + 12P\}$. In market equilibrium, the values of consumer surplus (CS) and producer surplus (PS), respectively àre

A. CS = 5000; PS = 5000

B. CS = 40000; PS = 40000/3

C. CS = 500000; PS = 500000/3

D. CS = 4000000; PS = 4000000

Question 18

Suppose that the government imposed a $P100$ ceiling on economics books in the above question. The 'deadweight-loss' from this policy is

A. 500000/3

B. 620000/3

C. 700000/3

D. None of the above

Question 19

If the matrix $A = \begin{pmatrix} 2 & 3 & 5 \\ \alpha & 0 & \alpha \\ 7 & 1 & \alpha \end{pmatrix}$ is singular, then

A. $\alpha = 1$

B. $\alpha = 7$ or $\alpha = 0$

C. $\alpha = 8$

D. $\alpha = 0$ or $\alpha = 8$

Question 20

The geometric mean of the numbers $4, 12, 20, 7, 0, 5$ is

A. 6.8

B. 0

C. undefined

D. infinity

Question 21

A continuous random variable X has the p.d.f., $f(x) = 3x^2; 0 \leq x \leq 1$. The value of a constant λ that satisfies the relation $\Pr\{X \leq \lambda\} = \Pr\{X > \lambda\}$ is

A. $\left(\frac{1}{3}\right)^{\frac{1}{2}}$

B. $\left(\frac{1}{2}\right)^{\frac{1}{3}}$

C. $\left(\frac{2}{3}\right)^{\frac{1}{2}}$

D. $\left(\frac{2}{3}\right)^{\frac{1}{3}}$

Question 22

The random variable X takes values 0,1 and 2 with $\Pr\{X = 0\} = \Pr\{X = 2\} = p$ and $\Pr\{X = 1\} = 1 - 2p$, where $0 \leq p \leq 0 \cdot 5$. For which of the following values of p does X attain the maximum variance?

A. 0

B. 0.3

C. 0.1

D. 0.5

Question 23

The average score of 100 students in a subject was given to be 40. It was later found that a score 53 was recorded as 83 by mistake. What is the corrected average score?

A. 49.7

B. 40

C. 39.7

D. 39

Question 24

If A, B and C are mutually exclusive and exhaustive events associated with a random experiment, and if $\Pr(B) = \frac{3}{2}\Pr(A)$ and $\Pr(C) = \frac{1}{2}\Pr(B)$, then $\Pr(A)$ is

A. $\frac{4}{13}$

B. $\frac{13}{4}$

C. $\frac{1}{13}$

D. $\frac{2}{13}$

Question 25

Suppose a home firm competes with a foreign firm in the domestic market. The two firms produce homogenous products and compete in quantities. The demand function faced by the firms is $Q = 200 - 2P$, where Q is the total quantity and P is the price. Each firm has a constant marginal cost of production given by $MC = 10$. In addition, the home country government imposes a per unit tariff of 10 on imports. The quantity produced by the home country, q_H; quantity produced by the foreign firm, q_F; and market price, P; are

A. $q_F = 190/3; q_H = 190/3; P = 110/3$

B. $q_F = 200/3; q_H = 140/3; P = 130/3$

C. $q_F = 150/3; q_H = 160/3; P = 145/3$

D. None of the above

Question 26

Suppose the supply of apples is given by $S = (10 + 4P)$ and the demand for apples is given by $D = (100 - 6P)$. Suppose the government institutes a subsidy of $t = \$3$ per unit of apples sold. Calculate Q, the equilibrium quantity of apples sold after the subsidy is imposed and R, the tax revenue needed to pay for the subsidy.

A. $Q = 46, R = 138$

B. $Q = 50, R = 150$

C. $Q = 53 \cdot 2, R = 159 \cdot 6$

D. None of the above

Question 27

In country X, cigarettes are forbidden, so people trade cigarettes in a black market. The cigarette demand is $Q_D = 12 - P$ and the cigarette supply is $Q_S = 2P$. The government becomes aware of the black market and reinforces the police so that half of the cigarette supply would be seized and destroyed. How does the consumer's surplus change between the two situations?

A. Remains the same

B. Decreases by 10

C. Decreases by 14

D. None of the above

Question 28

Anand consumes two goods, X and Y. His utility function is $U = X^2Y$. The price of X is 1 and the price of Y is 2 , while Anand's income is 100 . Now, let the price of Y fall to 1 , while the price of X and income stay constant. Anand is exactly as well off (in utility terms) after the price change as he was before it if he chooses

A. $X = 200/3, Y = 100/3$

B. $X = 2(500000)^1, 3, Y = (500000)^1/3$

C. $X = 100/3, Y = 200/3$

D. $X = (500000)^{\frac{1}{3}}/3, Y = 2(500000)^{\frac{1}{3}}/3$

Question 29

In question no. 28 above, the Slutsky compensating variation is

A. $-50/3$

B. $100/3$

C. 0

D. $-100/3$

Question 30

In question no. 28 above, the Slutsky equivalent variation is

A. $-50/3$

B. $100/3$

C. 0

D. $-100/3$

Question 31

Which of the following is true of a monopolist?

A. He does not face a demand curve.

B. He does not face a supply curve

C. He produces at the point, where $P = MC$ (marginal cost)

D. The consumer's surplus in a monopoly is always zero

Question 32

Joe consumes only two goods, X and Y. Suppose that he always increases his quantity consumed of Y when the price of Y rises. Then we can infer that

A. X is a normal good

B. Y is a normal good

C. X is an inferior good

D. Y has a price elasticity of demand of zero

Question 33

A risk-averse individual has to decide between two different lotteries

A. She will always prefer a lottery with less risk

B. She will always prefer a lottery with more risk

C. It would depend upon the degree of risk aversion

D. None of the above

Question 34

Sam consumes only two goods, X and Y. If X is a Giffen good for Sam, then

A. Y must be a Giffen good for Sam

B. Y must be a normal good for Sam

C. Both (a) and (b) are false

D. Not enough information given

Question 35

Mary's demand curve for food is $Q = 10 - 2P$. Her price elasticity of demand for food at price P^* equals $(-2/3)$. How much is P^* ?

A. 2

B. 4

C. 1

D. None of the above

Question 36

An employee's utility is increasing in wages received and decreasing in the effort exerted. What is the shape of the indifference curve in the wage effort space?

A. Upward sloping

B. Downward sloping

C. Straight line parallel to the X -axis

D. Straight line parallel to the Y -axis

Question 37

Which of the following will cause total revenue earned by cell phone producers to rise?

A. The demand is price elastic and the price falls

B. The price falls and demand is inelastic

C. The demand is reduced because consumers learn of new hazards of cell phone use

D. The population in the economy increases dramatically

Question 38

Let the utility function be $U = xy^2$, where x and y are two consumption goods. The prices of the two goods and the money income are given by

$$P_x = 2, P_y = 3, M = 9$$

The optimal quantities consumed of two goods are

A. $x = 2, y = 3/2$

B. $x = 2, y = 4$

C. $x = 3/2, y = 2$

D. $x = 4, y = 2$

Question 39

Other things being equal, demand is more elastic when

A. the good is a luxury and not a necessity

B. the good is broadly defined (a computer rather than an Apple Mac)

C. the item is not a large part of your budget

D. All of the above

Question 40

If the total output of candles in Nick's wicks shop increases from 20 per hour to 30 per hour as he hires the second worker, then

A. the marginal product of the second worker is 20 candles

B. the marginal product of the second worker is 30 candles

C. the price of each candle is \$2 and the marginal revenue product (MRP) of the second worker is \$20

D. the price of each candle is \$2 and the marginal revenue product (MRP) of the second worker is \$30

Question 41

Informal lenders extend credit to the poor more often than formal lenders, because

A. informal lenders do not face transaction costs and can therefore lend at affordable interest rates

B. relative to commercial banks, informal lenders are less risk averse and charge lower interest rates

C. relative to commercial banks, informal lenders can more easily circumvent informational asymmetries

D. None of the above

Question 42

Suppose that in a particular economy, the poor earn 500 per year and spend it all on consumption, the middle class earn $2,000$ per year and spend $\approx 1,500$ on consumption and the rich earn $10,000$ per year and consume 80% of it. The overall savings rate in the country, if 20% people are the poor and 50% are in the middle class, is

A. approximately 85%

B. approximately 41%

C. approximately 21%

D. None of the above

Question 43

If Lorenz curves cross, we say there is less inequality in the case where

A. the poorer get a larger percentage of income

B. the poorer get a smaller percentage of income

C. the richer are less rich

D. we cannot say

Question 44

One study found that the Gini coefficient for Egypt was 0.403 and that for Australia was 0.404. From this information, we can conclude that Egypt and Australia

A. had virtually the same number of households in absolute poverty

B. had virtually the same percentage of households in absolute poverty

C. had virtually the same human development index level

D. None of the above

Question 45

If child mortality remained constant but the incidence of mortality shifted from late childhood to early childhood, then fertility rates would

A. stay constant

B. decrease

C. increase

D. decrease first and then increase

Question 46

The supply curve of labour to industry in the Lewis model is horizontal if there is surplus labour in agriculture. This condition persists as long as

A. the marginal product of labour is less than the average product of labour in agriculture

B. there are diminishing returns to labour in agriculture

C. the marginal product of labour in agriculture is zero

D. None of the above

Question 47

$\lim_{x \to 0} \frac{a^x}{x}$ is equal to

A. $\log a$

B. $\log x$

C. 1

D. 0

Question 48

The function $f(x)$ is defined as $f(x) = -1, x \leq 0\, f(x) = (x+2)^2, 0 < x \leq 3\, f(x) = x, x > 3$ The area under the $f(x)$ curve between $x = -2$ and $x = 5$ is

A. 27

B. 205/3

C. 155/3

D. 80

Question 49

$f(x) = (2x - 3)^3$

A. has a minimum at $x = 3/2$

B. has a point of inflexion at $x = 3/2$

C. has a maximum at $x = 3/2$

D. has a minimum at $x = 2/3$

Question 50

If $f(x) = \frac{x^2-2x+4}{x^2+4x+3}$, then $f(x)$ has

A. no point of discontinuity

B. a single point of discontinuity at $x = 2$

C. two points of discontinuity at $x = 1$ and $x = 3$

D. two points of discontinuity at $x = -1$ and $x = -3$

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Question 1

Determine the absolute minimum for the following function and interval:

$$g(x) = 2x^3 + 3x^2 - 12x + 4 \text{ on } [-4, 2]$$

A. -4

B. -2

C. 1

D. 2

Question 2

Identify the inflection points for the following function :

$$f(x) = x(6 - x)^{2/3}$$

A. 3.6 and 6

B. 3.6 and $7 \cdot 2$

C. 6 and $7 \cdot 2$

D. Only 3.6

Question 3

How many real roots the following polynomial would have?

$$f(x) = 4x^5 + x^3 + 7x - 2$$

A. 1

B. 3

C. 4

D. 5

Question 4

We want to construct a box with a square base and we only have 6 m^2 of material to use in construction of the box. Assume that all the materials are used in the construction process. What is the maximum volume that the box can have?

A. 1 m^3

B. 2 m^3

C. 3 m^3

D. 4 m^3

Question 5

Determine the point(s) on $y = x^2 + 1$ that is or are closest to $(0, 2)$.

A. $(0, 1)$

B. $\left(-\frac{1}{\sqrt{2}}, \frac{3}{2}\right), \left(\frac{1}{\sqrt{2}}, \frac{3}{2}\right)$

C. $(-2, 5), (2, 5)$

D. $(-4, 17, (4, 17)$

Question 6

Determine the eigenvalues of the following matrix :

$$A = \begin{bmatrix} 8 & 6 \\ 6 & 8 \end{bmatrix}$$

A. 2 and 14

B. 0 and 2

C. 2 and 16

D. 0 and 16

Question 7

The following matrix

$$\begin{bmatrix} 2 & 6 \\ 6 & 18 \end{bmatrix}$$

is

A. positive definite

B. positive semidefinite

C. negative definite

D. negative semidefinite

Question 8

In the following expression

$$y^2 + 4 = x^2 - 9$$

$\frac{dy}{dx}$ would be

A. xy

B. x/y

C. $x + y$

D. $x - y$

Question 9

The following limit

$$\lim_{x \to a} \frac{x^2 - a^2}{x - a}$$

would result in

A. 0

B. a

C. a^2

D. $2a$

Question 10

The marginal cost of producing x units of some commodity is $3x^2 + x + 1$. The fixed cost is 150. The total cost would be

A. $3x^3 + x^2 + x + 150$

B. $x^3 + x^2 + x + 150$

C. $3x^3 + \frac{x^2}{2} + \frac{x}{2} + 150$

D. $x^3 + \frac{x^2}{2} + x + 150$

Question 11

Consider the following distribution of incomes in country x and country y : Country $x(2, 3, 4)$ Country $y(6, 9, 12)$ Which one of the following is correct?

A. Absolute poverty is higher in x than in y

B. Absolute poverty is higher in y than in x

C. Absolute poverty is the same in x and y

D. The information given is not sufficient to compare absolute poverty in x and y

Question 12

A steeply sloped iso-profit curve, with wages on the vertical axis and risk of injury on the horizontal axis, indicates that

A. injury levels can be reduced easily and inexpensively

B. it would be very expensive to increase safety in the workplace

C. the industry is very competitive

D. the industry will pay only small compensating differentials

Question 13

On a graph of wage rates versus risk of injury, indifference curves are convex because

A. risk of injury decreases workers' utility

B. each additional dollar of pay increases utility more than the previous dollar

C. utility is constant on indifference curves

D. at low levels of risk, a worker is less willing to give up wages for increased safety

Question 14

Which of the following is true of the prediction on the investment-to-growth link by Harrod-Domar and Solow models?

A. In both models, capital accumulation is the main engine of growth

B. In both models, there is no link between capital accumulation and growth

C. Capital accumulation drives long-term growth in H-D model but not in Solow model

D. Capital accumulation drives long-term growth in Solow model but not in H-D model

Question 15

According to the graph given below, which of the following statements is true? Percent of households

A. The bottom 40% of households earn less than 20% of all income

B. The bottom 20% of households earn 20% of all income

C. The society shown here has complete income equality

D. The more the curve sags downward, the greater is the income equality

Question 16

A Less Developed Country (LDC) has an Incremental Capital Output Ratio (ICOR) of 5 and a savings rate $s = 20\%$. If current GDP is \$1000, what will be the GDP in next year?

A. \$1150

B. \$1040

C. \$1200

D. \$1030

Question 17

Disguised unemployment forms

A. when marginal revenue productivity of labor is less than wage

B. when marginal revenue product of labor is zero with a positive wage

C. when more people are engaged in some activity than the number of persons required for that

D. All of the above

Question 18

The rate of population growth exhibits tremendous inertia through time because

A. when population growth rates are high, a relatively large fraction of the population is of child-bearing age

B. as wages rise, the income effect dominates the substitution effect for fertility

C. the welfare programs that spring up to care for families with large numbers of children simply encourage people to have large families

D. parents become more risk averse as their income rises and thus opt for larger family sizes to ensure old age support

Question 19

If Lorenz curves cross, we say there is less inequality in the case where

A. the poorer get a larger percentage of income

B. the poorer get a smaller percentage of income

C. the richer are less rich

D. We cannot say

Question 20

The user cost of a unit of capital is measured by

A. interest rate

B. rate of depreciation of capital

C. interest rate plus rate of depreciation of capital

D. interest rate plus rate of depreciation of capital minus expected rate of inflation

Question 21

Marginal efficiency of investment is

A. marginal productivity of investment

B. rate of discount that equalizes expected returns on investment with cost of capital

C. expected rate of profit

D. expected returns on investment at the margin

Question 22

With an increase in the net inflow of foreign capital, money supply of the economy

A. is unchanged

B. decreases by the amount of the inflow

C. increases by the amount of the inflow

D. increases by an uncertain amount

Question 23

The point of intersection of the Phillips curve with the horizontal axis representing the rate of unemployment indicates

A. full employment

B. natural rate of unemployment

C. involuntary unemployment

D. disguised unemployment

Question 24

If $\Delta G = \Delta T$ and ΔG and ΔT respectively represent change in government expenditure and change in taxes, the value of the multiplier would be equal to

A. one

B. zero

C. ΔG

D. $\Delta G + \Delta T$

Question 25

Assuming similar exogenous parameters governing the evolution of the economy, unconditional convergence predicts that

A. history, in the sense of different initial conditions, does not matter; all countries converge to the same level of per capita income

B. initial conditions matter and countries will not converge to the same level of per capita income

C. initial conditions do not matter and countries will not converge to the same level of per capita income

D. None of the above

Question 26

A situation in which the lender cannot observe inherent characteristics of borrowers (e.g., riskiness), which can lead to inefficiency and credit rationing is called

A. moral hazard

B. limited enforcement

C. risk management

D. adverse selection

Question 27

In the dual economy model, the phase of disguised unemployment must be associated with

A. a horizontal supply of labor to the industrial sector

B. an upward sloping supply of labor to the industrial sector

C. a downward sioping supply of labor to the industrial sector

D. The shape of the labor supply curve is irrelevant

Question 28

If the distribution of income in Joyland is $(1, 2, 2, 3, 5)$ and in Happyland is $(1, 1, 2,, 3,5)$, and the poverty line in both countries is 2.5, by the average income shortfall measure which country has more poverty?

A. Joyland

B. Happyland

C. Poverty is the same in both countries

D. We cannot tell from the information given

Question 29

Suppose there are 5 workers in an economy and initially all the workers work in the

traditional sector at a wage equal to 1 (call this initial period, period 0). In each subsequent period, one worker migrates from the traditional sector to the modern sector where wages are equal to 4. Assuming that the number of workers remains constant, then in period 5 all the workers are in the modern sector. As migration takes place, the Gini coefficient of inequality

A. at first rises and then falls

B. at first falls and then rises

C. decreases continuously

D. increases continuously

Question 30

A complete ranking of all feasible allocations that are made possible by the scarce economic resources of an economy is achievable by employing

A. the Pareto criteria

B. the Walras law

C. a social welfare function

D. All of the above

Question 31

Which of the following conditions of Pareto efficiency is violated by an indirect tax such as the VAT?

A. Equalization of the marginal rates of substitution across consumers

B. Equalization of the marginal rates of technical substitution across producers

C. Equalization of the marginal rate of substitution with the marginal rate of product transformation

D. All of the above

Question 32

An externality arises

A. when property rights are not well-defined over some good

B. due to non-rivalry in the consumption of some good

C. due to rivalry in the consumption of some good

D. All of the above

Question 33

Which of the following addresses redistribution issues to promote the equity objectives of the planner?

A. The first fundamental theorem of welfare economics

B. The second fundamental theorem of welfare economics

C. The Walras law

D. The Pareto criterion

Question 34

In the presence of asymmetric and incomplete information about wealth distribution in the economy, which of the following policy instruments should the government use to promote its equity objective?

A. A system of indirect taxes

B. A system of personalized lump-sum taxes and transfers

C. A uniform lump-sum tax or/and transfer

D. None of the above

Question 35

The production possibilities of two countries, Homeland and Foreign, capable of producing two goods, cloth and wheat, are given as follows:

	Output per labor year	
Country	Cloth	Wheat
Homeland	250	200
Foreign	300	400

Then each country can benefit if

A. Homeland specializes in the production and export of cloth, while importing wheat from the Foreign country

B. Foreign country specializes in the production and export of cloth, while importing wheat from the Homeland country

C. Homeland and Foreign country both specialize in wheat production in order to maximize world production of wheat

D. There is no scope for specialization and trade

Question 36

In the above question, Homeland and Foreign would be willing to trade with each other if the relative price of cloth is set at

A. 1.5

B. 1

C. 0.5

D. None of the above, as there is no scope for trade

Question 37

In the Heckscher-Ohlin world, international trade in commodities will lead to equalization of relative and absolute factor prices provided there is

A. perfect competition in commodity and factor markets

B. technologies of production which are identical across countries

C. constant returns to scale in production of all commodities

D. All of the above

Question 38

When a small capital-abundant country (exporting the capital-intensive commodity) imposes an import tariff on the labor-intensive commodity, then

A. owners of capitai experience in a loss in earnings

B. wage of the labor increases

C. Both (a) and (b)

D. None of the above

Question 39

An expansion of the service sector of an economy is most likely to affect the current account balance favourably at a given terms of trade via its impact on

A. exports of commodities

B. imports of commodities

C. invisible income

D. Cannot say anything

Question 40

Let the demand curve faced by a monopolist be the following : $D(p) = \frac{100}{p}$ if $p \leq 20$ and 0 otherwise (where p is price). Its cost function is given by $C(Q) = Q$, where Q is the output. What is the profit maximizing choice of output?

A. 20

B. 15

C. 5

D. None of the above

Question 41

Let the cost function of a monopolist be given by $C(Q) = cQ$, where Q is the output. Also let the monopolist face a linear demand function, $P(Q) = A - bQ$. The government imposes a quantity tax of 6 per unit of output. How much does the price rise?

A. 6

B. 3

C. 2

D. None of the above

Question 42

Let the utility function be given by $u(x, y) = \ln x + y$, where x and y are two goods. Let prices of two goods be given as follows : $p_x = 2, p_y = 1$ Calculate the utility maximizing choice of x and y for (i) income = 10 and (ii) income = 20.

A. (i) $x = 5, y = 5$; (ii) $x = 10, y = 10$

B. (i) $x = 3, y = 7; (ii) x = 6, y = 14$

C. (i) $x = \frac{1}{2}, y = 9$; (ii) $x = \frac{1}{2}, y = 19$

D. None of the above

Question 43

Consider the utility function $u(x, y) = \min(2x + y, x + 2y)$. Let p_x, p_y denote prices of two goods. The utility maximizing choice is $x = 0$ if

A. $p_x > 2p_y$

B. $p_x > p_y$

C. $p_x < p_y$

D. None of the above

Question 44

In country Z, cigarettes are forbidden, so people trade cigarettes in a black market. The cigarette demand is $Q_D = 12 - P$ and the cigarette supply is $Q_s = 2P$. The government becomes aware of the black market and reinforces the police so that half of the cigarette supply would be seized and destroyed. How does the consumer surplus change between the two situations?

A. Remains the same

B. Decreases by 10

C. Decreases by 14

D. None of the above

Question 45

The table given below shows bushels of wheat and yards of cloth that the US and India can produce with one unit labor under four different situations:

	Case A		Case B		Case C		Case D	
	US	India	US	India	US	India	US	India
Wheat (kg/man)	4	1	4	3	4	1	4	2
Cloth (yard/man)	1	2	3	2	2	2	2	1

Which of the following cases illustrate that the Adam Smith principle of trade according to absolute advantage is incorrect when using the principle of comparative advantage?

A. A and D

B. B and C

C. A and C

D. B and D

Question 46

In the Heckscher-Ohlin model of trade, which of the following is a necessary assumption for trade to follow expected patterns?

A. Constant returns to scale in production

B. Non-factor intensity reversal

C. Similar demand patterns in both countries

D. None of the above

Question 47

A and B are two independent events with probability that both occur is $\frac{1}{3}$ and neither of them occur is $\frac{3}{8}$. If probability of A's occurrence is less than that of B's occurrence, then the probability of A 's occurrence is

A. $\frac{1}{4}$

B. $\frac{1}{3}$

C. $\frac{1}{8}$

D. $\frac{1}{5}$

Question 48

A group of 250 items is divided into two subgroups, first consisting of 100 items and the second 150. The first group has a mean 15 and standard deviation (SD) 3. The mean and SD of the whole group is 15.6 and $\sqrt{13.44}$ respectively. The SD of the second group, then, is

A. 3

B. 4

C. undefined

D. infinity

Question 49

Let $f(x_1, x_2) = 21x_1^2x_2^3$, for $0 < x_1 < x_2 < 1$, and 0 elsewhere, be the joint probability density function of X_1 and X_2. The conditional mean and variance of X_1 given $X_2 = x_2, 0 < x_2 < 1$ are

A. $4x_2$ and $6x_2^2$

B. 0.3 and $0 \cdot 8$

C. $0 \cdot 1$ and 4

D. $\frac{3}{4}x_2$ and $\frac{3}{80}x_2^2$

Question 50

If the random variable X is uniformly distributed with mean 1 and variance $\frac{4}{3}$, then $\Pr\{X < 0\}$ is

A. $\frac{2}{3}$

B. $\frac{1}{4}$

C. 0

D. 1

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Question 1

Calculate $V(CX)$[V represents variance; C is a constant; X is a variable].

A. $CV(X)$

B. 0

C. $C^2V(X)$

D. $V(X)$

Question 2

If $X \sim \text{Binomial}(5, p)$ such that $\Pr(X = 1) = 0.4096$ and $\Pr(X = 2) = 0.2048$, then the value of p is

A. 0.1

B. 1.0

C. $2 \cdot 0$

D. 0.2

Question 3

A cake of weight 1 kg is to be shared between two consumers X and Y. A consumption vector is denoted by (x, y), where x is the consumption in kg by consumer X and y is the consumption in kg by consumer Y. Which of the following statements is true based on this information?

A. 10,1) is a Pareto efficient and fair allocation of the cake

B. $(0 \cdot 5, 0.4)$ is a Pareto inefficient but fair allocation of the cake

C. $(0.5, 0.5)$ is a Pareto efficient and fair allocation of the cake

D. None of the above

Question 4

Consider an industry with Cournot competition. The industry demand curve is $P = 200 - Q$, where P is the price of the product and Q is industry output. The industry faces a constant MC of 20 and there are no fixed costs. Suppose we are given that the equilibrium price is 56 . Then in this equilibrium, the number of Cournot competitors must be

A. 2

B. 3

C. 4

D. 5

Question 5

If the matrix $\begin{pmatrix} 1 & 2 & 1 \\ 2 & 0 & \alpha \\ 1 & \alpha & 1 \end{pmatrix}$ is singular, then the value of α must be

A. 1

B. 2

C. 3

D. 4

Question 6

When a country allows for trade and becomes an exporter of the good, which of the following would not be true?

A. The price paid by the domestic consumer of the good increases.

B. The price received by the domestic producers of the good increases.

C. The losses of domestic consumers exceed the gains of domestic producers.

D. The gains of domestic producers exceed the losses of domestic consumers.

Question 7

Consider the function U defined on $\mathbb{R}^2$, where $U(x, y) = \sqrt{3x + y}$. Which of the following statements is true?

A. U is strictly concave.

B. U is strictly quasi-concave.

C. U is both strictly concave and strictly quasi-concave.

D. U is both concave and quasi-concave.

Question 8

In Question No. 7, U is homogeneous to what degree?

A. 1

B. 3/2

C. 2/3

D. 1/2

Question 9

A country experiences a sudden inflow of unemployed immigrants. The immediate effect is to

A. move the country down its short-run Phillips curve

B. move it up its short-run Phillips curve

C. shift the Phillips curve to the right

D. shift the Phillips curve to the left

Question 10

World Bank Data show that in 1995, the poorest 20% of households accounted for 7.5% of household income in Niger, the next 20% of households accounted for $11 \cdot 8\%$ of income, the middle 20% accounted for 15.5% of income, the second richest 20% accounted for $21 \cdot 1\%$ of income, and the top 20% accounted for 44.1% of income. What is the cumulative income share of the bottom 60% of households in Niger?

A. 15.5%

B. 34.8%

C. 48.1%

D. $65 \cdot 2\%$

Question 11

The probability density function of x is given as $f(x) = ae^{-x/5}$ for $x > 0$. The value of a is

A. 0.5

B. 0.3

C. 0.2

D. 0.1

Question 12

If X and Y are two random variables, then which of the following is true?

A. $E[E(X/Y)] = E(X)$

B. $E[E(X/Y)] = E[E(X)]$

C. $E(X/Y) = E(Y/X)$

D. All of the above

Question 13

A perfectly competitive firm produces 100 units of output. It faces a total fixed cost of $5,000$. The average variable cost (AVC) of production at this output is 10 . When production rises to 101 , the total cost of production is $F6,070$. Then at this point

A. the AC curve must be falling

B. MC < AVC

C. the MC curve lies above the AC curve

D. the firm should exit the industry

Question 14

Lalaland is part of a currency union, all of whose members have committed to a common currency. Capital moves freely across borders. In this situation

A. Lalaland's fiscal policies will have no effect

B. Lalaland's monetary policies will be ineffective

C. the money multiplier in Lalaland will go up

D. the aggregate supply curve will become horizontal

Question 15

The domestic demand and domestic supply of shirts in a small economy are

$$Q_s = 15P - 15$$
$$Q_d = 85 - 10P$$

where Q_s and Q_d are quantity supplied and quantity demanded respectively, and P denotes the market price. The price of a shirt in the international market is given to be 2 units. If the home country engages in free trade, then it will

A. export 70 shirts

B. import 65 shirts

C. import 50 shirts

D. import 15 shirts

Question 16

In Question No. 15, if the home country imposes an import tariff of 1 unit, then the government tariff revenue will be

A. 65

B. 55

C. 35

D. 25

Question 17

In Question No. 15, the deadweight loss due to the above tariff imposition would be

A. 6.5

B. 7.5

C. 12.5

D. $15 \cdot 5$

Question 18

Expectation is called the first moment.

A. It is true

B. It is not true

C. It depends

D. None of the above

Question 19

The deadweight loss due to a unit tax is measured as

A. the sum of losses in consumer and producer surpluses induced by the tax minus the government's revenue

B. the sum of losses in consumer and producer surpluses induced by the tax plus the government's revenue

C. the sum of losses in consumer and producer surpluses induced by the tax

D. None of the above

Question 20

Which of the following is true of a two-person game with a finite number of strategies?

A. A pure strategy Nash equilibrium of the game always exists

B. A dominant strategy equilibrium of the game always exists

C. A mixed strategy Nash equilibrium of the game always exists

D. All of the above

Question 21

Suppose a consumer's utility is a function of two goods x and y, and is given by the function $U(x, y) = xy$. The consumer's Engel curve is

A. linear

B. non-linear

C. downward sloping

D. None of the above

Question 22

The solution to the minimization problem $\min y = x_1 + x_2$ subject to the constraint $1 - \sqrt{x_1} - x_2 = 0$ is

A. $x_1 = 1, x_2 = 2$

B. $x_1 = \frac{1}{3}, x_2 = 1$

C. $x_1 = \frac{1}{4}, x_2 = \frac{1}{2}$

D. None of the above

Question 23

$x \to 1 \left\{\left(x^2 + 4\right) / \left(x^2 - 4\right)\right\}$ is

A. 1

B. $-5/3$

C. 0

D. ∞

Question 24

Consider an Amusement Park. The Park owner has a fixed cost T and a marginal cost of 0.50 per ride. Consumers have a demand curve $Q = 10 - 2P$. The Park owner designs a two-part tariff. How much should he be charging as fixed fee, F and per unit price, P ?

A. $F = 25, P = 0 \cdot 50$

B. $F = 42 \cdot 75, P = 2$

C. $F = 20.25, P = 0.50$

D. None of the above

Question 25

Suppose there are two firms that face a linear demand curve $p(Y) = a - bY$ and have constant marginal costs c for each firm. The Cournot equilibrium outputs of the firms are

A. $(a-b)/3c$

B. $a-d/b$

C. $(a-c)/3b$

D. $(a-3c)/b$

Question 26

Let the demand function faced by a monopolist be $q = kp^{-2}$, where q is quantity, p is price and k is a positive constant. The marginal cost of production is constant and equal to 3. The profit maximizing price and Lerner index, respectively, are

A. $(3, 2)$

B. $(6, \frac{1}{2})$

C. $(6, 2)$

D. $(5, 3)$

Question 27

Consider the following table :

	X			
	0	1	2	$\sum$
0	1/6	1/3	1/12	7/12
1	2/9	1/6	0	7/18
2	1/36	0	0	1/36
$\sum$	5/12	1/2	1/12	1

Calculate $P(X/Y = 1)$

A. 1

B. 7/18

C. 1/2

D. 3/4

Question 28

If A, BC are mutually exclusive and exhaustive events associated with a random experiment, and if $\Pr(B) = \frac{3}{2}\Pr(A)$ and $\Pr(C) = \frac{1}{2}\Pr(B)$, then $\Pr(A)$ is

A. 4/13

B. 13/4

C. 1/13

D. 2/13

Question 29

If the marginal propensity to save is equal to 0.4 in the simple Keynesian model, then a 10-unit increase in taxes will cause output to fall by

A. 5 units

B. 10 units

C. 15 units

D. 40 units

Question 30

If the distribution of income in country X is $(1, 2, 2, 3, 5)$, and in country Y is $(1, 1, 2, 3, 5)$, and the poverty line in both the countries is 2.5, by the average income shortfall measure, which country has more poverty?

A. X

B. Y

C. Poverty is the same in X and Y

D. We cannot tell from the information given

Question 31

The opportunity cost of holding money

A. increases with inflation and decreases in the interest rate

B. decreases with inflation and increases in the interest rate

C. decreases with inflation and decreases in the interest rate

D. increases with inflation and increases in the interest rate

Question 32

If the probability density function of X is $f(x) = \frac{1+\alpha x}{2}; -1 \leq x \leq 1, -1 \leq \alpha \leq 1$, then the expectation of X is

A. $6/\alpha$

B. $\alpha/3$

C. $\alpha/2$

D. $3/\alpha$

Question 33

One study found that the Gini coefficient for Egypt was 0.403 and that for Australia was 0.404. From this information, we can conclude that Egypt and Australia

A. had virtually the same number of households in absolute poverty

B. had virtually the same percentage of households in absolute poverty

C. had virtually the same Human Development Index level

D. None of the above

Question 34

In country X, cigarettes are forbidden, so people trade cigarettes in a black market. The cigarette demand is $Q_D = 12 - P$ and the cigarette supply is $Q_S = 2P$. The government becomes aware of the black market and reinforces the police so that half of the cigarette supply would be seized and destroyed. How does the consumer surplus change between the two situations?

A. Remains the same

B. Decreases by 10

C. Decreases by 14

D. None of the above

Question 35

Let $f(x) = x^3 - 3x^2 + 3$. On what interval is the function decreasing?

A. $(1, 1)$

B. $(1, 3)$

C. $(2, 3)$

D. $(0, 2)$

Question 36

Alex consumes only two goods, X and Y, and has a utility function $U(X, Y) = XY$. Now suppose the price of X changes while the price of Y and Alex's money income stay unchanged. Then

A. the Hicks compensating variation for a price rise exceeds the Slutsky compensating variation

B. the Slutsky compensating variation for a price rise exceeds the Hicks compensating variation

C. the Slutsky equivalent variation for a price fall exceeds the Hicks equivalent variation

D. the Hicks and Slutsky variations are always equal

Question 37

If a country allows trade and the domestic price of a good is higher than the world price, then

A. the country will become an exporter of the good

B. the country will become an importer of the good

C. the country will neither import nor export

D. Additional information about demand is needed to determine whether the country will export or import the good

Question 38

If $P(A) = 0.6P(B) = 0.3, P(A/B) = 0 \cdot 5$, then what is $P(AB)$?

A. 0.10

B. 0.25

C. 0.15

D. 0.60

Question 39

Which one of the following would indicate a profitable capital investment?

A. The net present value is $\$12,000$

B. The interest rate on borrowed funds is 4% and the rate of return is 3%

C. The interest rate exceeds the net present value

D. The rate of return exceeds the interest rate on borrowed funds

Question 40

The mean of a Poisson distribution with parameter λ and that of an exponential distribution with parameter λ are equal

A. for any value of λ

B. for $\lambda = 1$

C. for $\lambda = 0 \cdot 5$

D. for no value of λ

Question 41

Let the utility function be given by $u(x, y) = \ln x + y$, where x and y are two goods. Let prices of two goods be given as $p_x = 2$ and $p_y = 1$. Calculate the utility maximizing choice of x and y for (i) income = 10 and (ii) income = 20.

A. (i) $x = 5, y = 5$; (ii) $x = 10, y = 10$

B. (i) $x = 3, y = 7$; (ii) $x = 6, y = 14$

C. (i) $x = \frac{1}{2}, y = 9$; (ii) $x = \frac{1}{2}, y = 19$

D. None of the above

Question 42

The table below gives the maximum amount of rice or cloth that countries A and B could produce if they fully utilize all the factors of production at their disposal with the best technology available to them :

	Country $-A$	Country B
Rice (in million tonnes/year)	50	100
Cloth (in million yards/year)	100	300

Trade based on comparative advantage would imply

A. export both rice and cloth

B. export rice and import cloth

C. import both rice and cloth

D. export cloth and import rice

Question 43

In Question No. 42, the free trade relative price of rice could be

A. 1.75

B. 1.95

C. $2 \cdot 75$

D. 3.15

Question 44

For the Poisson distribution

A. mean = variance

B. mean > variance

C. mean < variance

D. None of the above

Question 45

In an Edgeworth box, the contract curve is a locus of points where

A. there is no excess demand

B. the marginal rates of substitution are equalized

C. None of the above hold

D. Both (a) and (b) hold

Question 46

Two events, A and B, are said to be mutually exclusive, if

A. $P(A/B) = 1$

B. $P(B/A) = 1$

C. $P(A \cap B\} = 1$

D. $P(A \cap B) = 0$

Question 47

Which of the following statements is true?

A. If X is an inferior good, the demand curve for X is upward sloping

B. If there is only one firm in an industry, it can never charge $P = AC$ (average cost)

C. A Sweezy kinked demand curve reflects an atmosphere of business optimism

D. With the same demand curves, industry output is equal in perfect competition and in a perfectly price discriminating monopoly

Question 48

A monopolist faces a demand curve given by $D(q) = 100 - 2p$. Its cost is $dy = 2y$. What is its optimal level of output q^* and price p^* ?

A. $q^* = 20$ and $p^* = 10$

B. $q^* = 45$ and $p^* = 20$

C. $q^* = 48$ and $p^* = 26$

D. None of the above

Question 49

Find x and y so that the following ordered data set has a mean of 42 and a median of 35 :

$$17, 22, 26, 29, 34, x, 42, 67, 70, y$$

A. $x = 35, y = 71$

B. $x = 36, y = 77$

C. $x = 38, \quad y = 71$

D. $x = 36, \quad y = 72$

Question 50

A Keynesian liquidity trap will

A. lead to a vertical IS curve

B. lead to a vertical LM curve

C. lead to a vertical AD curve

D. lead to ineffective fiscal policy

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Question 1

Suppose $AB = \begin{bmatrix} 5 & 4 \\ -2 & 3 \end{bmatrix}$ and $B = \begin{bmatrix} 7 & 3 \\ 2 & 1 \end{bmatrix}$ Find A.

A. $\begin{bmatrix} 1 & -3 \\ -2 & 7 \end{bmatrix}$

B. $\begin{bmatrix} 11 & -17 \\ -27 & 41 \end{bmatrix}$

C. $\begin{bmatrix} 13 & 43 \\ 4 & 18 \end{bmatrix}$

D. $\begin{bmatrix} -3 & 13 \\ -8 & 27 \end{bmatrix}$

Question 2

If the development process is characterized by what we have called 'modern sector enlargement', the relationship between GNP per capita and poverty in the distribution of income can be expressed as

A. a strictly decreasing relationship

B. a strictly increasing relationship

C. no relationship

D. first increasing and then decreasing

Question 3

What is the distance between the vectors $u = \begin{bmatrix} 3 \\ 2 \\ 1 \end{bmatrix}$ and $v = \begin{bmatrix} 2 \\ -1 \\ 2 \end{bmatrix}$?

A. 3

B. $\sqrt{10}$

C. $\sqrt{11}$

D. $\sqrt{12}$

Question 4

Child rearing involves costs and benefits to parents, and there are economic theories that show

A. fathers and mothers share these equally

B. there is a trade off to parents between quantity and quality of children

C. the income elasticity of demand for children is strongly negative

D. None of the above

Question 5

In how many years will a sum of money triple itself when it is invested at an interest rate of 3% with continuous compounding?

A. Around 40 years

B. Around 36 years

C. Around 33 years

D. Around 30 years

Question 6

In a fixed rent tenancy, risk is

A. borne by the tenant

B. borne by the landlord

C. shared between landlord and tenant

D. None of the above

Question 7

Which of the following must be true of a continuous function on (a, b) ?

A. The function achieves its maximum on (a, b)

B. The function is bounded

C. If $f(a) = 2$ and $f(b) = 5$, then $f(c) = 3$, for some $c \in (a, b)$

D. None of the above

Question 8

Without adjusting for 'purchasing power parity', real GDP tends to understate income in developing economies by

A. underestimating saving

B. ignoring government deficit spending

C. omitting non-market transactions

D. All of the above

Question 9

Find the rates of growth (rog) of variables X and Y when they are the following continuous functions of time t : I. $X = t^3$ II. $Y = Ae^{\int_0^t r'(s)ds}$ where $r'(s) = \frac{dr}{ds}$

A. rog of Y is 3 and rog of X is $r(t)$

B. rog of Y is 3 and rog of X is $\int_0^t r'(s)ds$

C. rog of Y is $\frac{3}{t}$ and rog of X is $r(t)$

D. None of the above

Question 10

An increase in the marginal propensity to import will

A. increase net exports

B. reduce the effectiveness of expansionary fiscal policy on national income

C. increase the open economy multiplier

D. result in exchange rate overshooting

Question 11

Which of the following is a unit vector that is orthogonal (perpendicular) to the vector $a = (1, -1, 2)$?

A. $(1, -1, -1)$

B. $\left(-\frac{1}{\sqrt{3}}, -\frac{1}{\sqrt{3}}, \frac{1}{\sqrt{3}}\right)$

C. $\left(\frac{1}{\sqrt{3}}, -\frac{1}{\sqrt{3}}, -\frac{1}{\sqrt{3}}\right)$

D. $\left(\frac{1}{\sqrt{2}}, -\frac{1}{\sqrt{2}}, -\frac{1}{\sqrt{2}}\right)$

Question 12

The rise in the equilibrium price and the reduction in equilibrium quantity demanded due to an imposition of a unit tax is higher

A. the more inelastic is the supply curve

B. the more elastic is the supply curve

C. the more inelastic is the demand curve

D. None of the above

Question 13

Jai only consumes 2 goods, X and Y. Both goods have equal prices, which remain constant throughout. However, Jai's income keeps increasing. As his income increases, he continues to consume X and Y in exactly the same ratio as he did before. Then

A. X and Y must be perfect complements for Jai

B. Jai has utility function of the form $U = XY$

C. X and Y must be perfect substitutes

D. X and Y may be either perfect complements, perfect substitutes, or Jai's preferences may be represented by utility function $U = XY$

Question 14

Find the probability of a 4 turning up at least once in two tosses of a fair dice (with six faces marked 1 to 6).

A. $\frac{1}{36}$

B. $\frac{1}{18}$

C. $\frac{11}{36}$

D. $\frac{1}{3}$

Question 15

Good X is being produced by only one firm, firm A. Now, suppose a second firm, firm B enters the industry and starts producing good X. Firm B finds that if it charges the price that firm A was originally charging, then it will make a loss. Which of the following could be true?

A. Good X is being produced in a natural monopoly

B. Good X is being produced in a regular, but contestable monopoly

C. Firms A and B are symmetric Bertrand duopolists

D. Firm B must have lower costs of production than firm A

Question 16

Box 1 contains 3 red and 5 white balls, Box 2 contains 4 red and 2 white balls. A ball is chosen at random from Box 1 and transferred to Box 2. Then a ball is drawn from Box 2 . Find the probability that it is white.

A. $\frac{3}{7}$

B. $\frac{3}{8}$

C. $\frac{3}{9}$

D. $\frac{3}{10}$

Question 17

A discriminating monopolist sells the same good in two segregated markets, Market 1 and Market 2. Denote the prices of the good in the two markets by P_1 and P_2. Denote the price elasticities of demand for the good in the two markets by e_1 and e_2. Now, suppose that the price in Market 2 is double the price in Market 1. Which of the following are possible values of e_1 and e_2?

A. $e_1 = \frac{1}{2}, e_2 = \frac{2}{3}$

B. $e_1 = 2, e_2 = 1$

C. $e_1 = 2, e_2 = \frac{4}{3}$

D. $e_1 = 3, e_2 = 2$

Question 18

A, B, C are independent events such that $P(A) = 0.5, P(B) = 0.6, P(C) = 0 \cdot 1$. Then $P\left(A^C \cap B^c \cup C\right)$ (where A^c and B^c are the complements of events A and B, respectively, in the sample space) is

A. 0.69

B. 0.73

C. 0.71

D. 1

Question 19

Suppose there are three people in a district with different marginal benefits from

improved air quality. The marginal willingness to pay for improved air quality for two of them is given by $p_i = 20 - Q, i = 1, 2$ and for the third person is given by $p_3 = 10 - Q$ where Q refers to the level of air quality, and p_i refers to the price per unit of Q that individual i is willing to pay. Let marginal cost of improving air quality be $5Q$. What is the socially optimum level of air quality?

A. $Q = 5$

B. $Q = 3 \cdot 33$

C. $Q = 6 \cdot 25$

D. None of the above

Question 20

Suppose that X is a random variable with the following distribution function :

$$\begin{aligned} F(x) &= 0 \quad ; && \text{for } x < 0 \\ &= \frac{x}{8}; && \text{for } 0 \leq x < 1 \\ &= \frac{2+x}{8}; && \text{for } 1 \leq x < 2 \\ &= \frac{9+x}{12}; && \text{for } 2 \leq x < 3 \\ &= 1 \quad ; && \text{for } x \geq 3 \end{aligned}$$

Then $P(1 \leq X \leq 2)$ is

A. $\frac{1}{8}$

B. $\frac{3}{8}$

C. $\frac{19}{24}$

D. $\frac{13}{24}$

Question 21

A firm sells some output in a perfectly competitive market, where the price is 60 per unit, and some on a market in which it has a monopoly, with a demand function $p_2 = 100 - q_2$, where q_2 is output in the monopoly market. Its total cost function is $C = (q_1 + q_2)^2$, where q_1 is output in the competitive market. What is the profit maximizing output in the two markets, and price in the monopoly market?

A. $q_1 = 10, q_2 = 20; p_2 = 80$

B. $q_1 = 15, q_2 = 20; p_2 = 60$

C. $q_1 = 10, q_2 = 25; p_2 = 70$

D. None of the above

Question 22

A random variable X has the following cumulative distribution function :$F(x) = 1 - e^{-x} - xe^{-x}$ for $0 \leq x < \infty$ and $F(x) = 0$ otherwise. The mean and the mode of this distribution are

A. mean = 0, mode = 0

B. mean = 2, mode = 1

C. mean = 2, mode = 0

D. mean = 1, mode = 2

Question 23

Given the utility function $U(x_1, x_2) = x_2 + u(x_1)$, where u is an increasing function of x_1, the effect of a change in income (holding prices fixed) on the demand for good 1 is

A. positive

B. 0

C. negative

D. None of the above

Question 24

A random variable X has the following cumulative distribution function :

$$F(x) = 1 - e^{-x} - xe^{-x}; \quad \text{for} \quad 0 \leq x < \infty$$

$$= 0$$

elsewhere The mean and the mode of this distribution are

A. mean = 0, mode = 0

B. mean = 2, mode = 1

C. mean = 2, mode = 0

D. mean = 1, mode = 2

Question 25

Given the utility function $U(x_1, x_2) = x_2 + u(x_1)$, where u is an increasing function of x_1, the effect of a change in income (holding prices fixed) on the demand for good 1 is

A. positive

B. 0

C. negative

D. None of the above

Question 26

Consider an IS-LM model. If the investment function is interest insensitive, then

A. the slope of the IS curve will be horizontal and monetary policy will be effective

B. the slope of the IS curve will be horizontal and monetary policy will be ineffective

C. the slope of the IS curve will be vertical and monetary policy will be effective

D. the slope of the IS curve will be vertical and monetary policy will be ineffective

Question 27

Let the cost function of a monopolist be given by $C(Q) = cQ$, where Q is output. Also let the monopolist face a linear demand function, $P(Q) = A - bQ$. The government imposes a quantity tax of 6 per unit of output. How much does the price rise?

A. 6

B. 3

C. 2

D. None of the above

Question 28

Consider a short-run complete macro model as specified by the following equations: I. $Y = Y(N, \bar{K})$, where Y is aggregate output, N labour and $\bar{K}$ capital II. $P\frac{\partial Y}{\partial N} = w(N)$ for $N < N_f$, where RHS is Keynesian labour supply function and N_f is the full-employment level of labour III. $S(Y, r, \alpha) = I(Y, r, \beta)$ where r is interest rate, α and β are shift parameters reflecting autonomous propensity to save and autonomous inducement to invest and S and I are the savings and investment functions, respectively IV. $\bar{M}^s = M^{dt}(PY) + M^{ds}(r)$, where $\bar{M}^s$ is constant money supply, M^{dt} is transactions demand for money function and M^{ds} is speculative demand for money function An autonomous rise in the propensity to save (α) will lead to

A. a fall in Y, a fall in P, a fall in N, a fall in r

B. a rise in Y, a fall in P, a rise in N, a fall in r

C. a fall in Y, a rise in P, a fall in N, a rise in r

D. a rise in Y, a rise in P, a rise in N, a rise in r

Question 29

In the macro-model described in Question No. 26 above, an autonomous rise in the inducement to invest (β) will lead to

A. a fall in Y, a fall in P, a fall in N, a fall in r

B. a rise in Y, a fall in P, a rise in N, a fall in r

C. a fall in Y, a rise in P, a fall in N, a rise in r

D. a rise in Y, a rise in P, a rise in N, a rise in r

Question 30

Consider an amusement park. The park owner has a fixed cost T and a marginal cost of 0.50 per ride. Consumers have a demand curve $Q = 10 - 2P$. The Park owner designs a two-part tariff. How much should he be charging as fixed fee, F, and per unit price, P?

A. $F = 25; P = 0 \cdot 50$

B. $F = 42 \cdot 75; P = 2$

C. $F = 20 \cdot 25; P = 0.50$

D. None of the above

Question 31

The paradox of thrift maintains that an economy's desire to save more

A. lowers the equilibrium level of output and has no effect on the amount saved

B. lowers the equilibrium level of output and the amount saved

C. lowers the equilibrium level of output and increases the amount saved

D. has no effect on the equilibrium level of output and increases the amount saved

Question 32

Which of the following is true for a utility function of the form

$$U(x_1, x_2) = x_2 + u(x_1)$$

where u is an increasing function of x_1?

A. The indifference curves are radial translates of one another

B. The indifference curves are vertically parallel

C. The Engel curves are straight lines through the origin

D. None of the above

Question 33

Suppose Amit's true benefit from a public good is $\frac{2}{5}$, while Salim's true benefit is 1 . The cost of building of the public good is 1 and is to be shared equally by Amit and Salim, if it is built. The government decides to build the bridge if the net social benefits based on Amit and Salim's reported values of their respective benefits is non-negative. The total benefit from the public good is the sum of individual benefits. Which of the following is true?

A. The socially optimal decision based on truthful reporting is to build the public good, while Amit has an incentive to misreport his true benefit

B. The socially optimal decision based on truthful reporting is not to build the public good, while Amit has an incentive to report his true benefit

C. The socially optimal decision based on truthful reporting is to build the public good, while Salim has an incentive to misreport his true benefit

D. The socially optimal decision based on truthful reporting is not to build the public good, while Salim has an incentive to misreport his true benefit

Question 34

In continuation of Question No. 31 above, suppose Amit can report his benefit from the public good as either 0 of $\frac{2}{5}$, while Salim can report either 1 or $\frac{4}{5}$. Which of the following is a weakly-dominant strategy equilibrium of the underlying game?

A. Both Amit and Salim report their true types

B. Both Amit and Salim misreport

C. Amit reports the truth, while Salim does not

D. None of the above

Question 35

The value of the expenditure multiplier when marginal propensity to consume is 0.8 and income tax rate is 0.5 will be

A. 3.57

B. 2.50

C. 1.67

D. 1.47

Question 36

(I) Indirect taxes violate which of the three conditions of Pareto optimality and (II) the rebate to producers on the indirect taxes that they paid on purchases of inputs from other firms under the new Goods and Services Tax (GST) ensures which condition of Pareto optimality will continue to hold under indirect taxation? The answers to (I) and (II) are

A. (I) joint consumption and production efficiency and (II) the Walras law

B. (I) consumption efficiency and (II) joint consumption and production efficiency

C. (I) production efficiency and (II) joint consumption and production efficiency

D. (I) joint consumption and production efficiency and (II) production efficiency

Question 37

An inflationary gap can be eliminated by

A. equal increases in net tax revenues and government spending

B. an increase in government spending and a decrease in lump sum taxes

C. equal decreases in net tax revenues and government spending

D. a decrease in lump sum taxes

Question 38

Automatic fiscal stabilizers

A. keep the government budget balanced

B. keep the government high employment budget balanced

C. help to reduce the severity of recessions and inflationary boom periods

D. will cause tax revenues to rise in periods of recession

Question 39

Within a fixed exchange rate system, the effect of an expansionary monetary policy action on the balance of payments will be to

A. worsen the balance on the capital account but improve the trade balance

B. worsen the trade balance but improve the balance on the capital account

C. improve both the trade balance and the balance on the capital account

D. worsen both the trade balance and the balance on the capital account

Question 40

Assuming perfect capital mobility, the balance of payments (BP) schedule is

A. vertical

B. horizontal

C. upward sloping

D. downward sloping

Question 41

A difference between the classical and new classical model is that

A. classical economists assumed that labor suppliers knew the real wage, while the new classical economists assume they form a rational expectation of the real wage

B. classical economists assumed that the money wage was flexible, while the new classical economists assume it was fixed

C. classical economists were non-interventionists on policy questions, while the new classical economists are policy activists

D. labor supply in the classical model is a function of the real wage, while labor supply depends on the money wage in the new classical model

Question 42

A Keynesian consumption function differs from the permanent income hypothesis in that

A. a temporary windfall in income is saved if the consumption function is Keynesian, but is consumed if people follow the permanent income hypothesis

B. a temporary windfall in income is consumed if the consumption function is Keynesian, but is saved if people follow the permanent income hypothesis

C. people worry about their income relative to others in the permanent income hypothesis, but they don't if the consumption function is Keynesian

D. the time profile of saving is constant over one's lifetime in the permanent income hypothesis, but not if the consumption function is Keynesian

Question 43

Which of the following series converges?

A. $\sum_{n=1}^{\infty} \frac{n^7}{6^n}$

B. $\sum_{n=1}^{\infty} \frac{n^3}{n^5+3}$

C. $\sum_{n=1}^{\infty} \frac{x^n}{n!}$

D. All the three series above converge

Question 44

The monetary authority can generate more money from a given increase in high-powered money by

A. increasing the fractional reserve requirement in banks, and encouraging measures to withdraw more cash

B. increasing the fractional reserve requirements in banks, and discouraging measures to withdraw more cash

C. decreasing the fractional reserve requirement in banks, and discouraging measures to withdraw more cash

D. decreasing the fractional reserve requirement in banks, and encouraging measures to withdraw cash

Question 45

Which of the following is counted in GDP?

A. The value of the services 1 perform at home while helping my mother with housework

B. My contributions to charity

C. My payment for a used car that I've bought this year

D. The earnings of a foreign national working in our country

Question 46

The Pigou effect

A. explains why investment depends on interest rates

B. helps to explain why aggregate demand can be downward sloping even in a liquidity trap

C. says that consumption should always be taxed

D. explains why the aggregate supply curve is vertical in the long run

Question 47

Informal lenders extend credit to the poor more often than formal lenders because

A. informal lenders do not face transaction costs and can therefore lend at affordable interest rates

B. compared to commercial banks, informal lenders are less risk averse and charge lower interest rates

C. compared to commercial banks, informal lenders can more easily circumvent informational asymmetries

D. None of the above

Question 48

With reference to the table below, it is correct to state that

	Scenario I	
	US	Japan
Car ('000/man-day)	4	1
Computers ('000/man-day)	1	1

	Scenario II	
	US	Japan
Car ('000/man-day)	4	2
Computers ('000/man-day)	2	1

A. under I, US has absolute advantage in both goods and comparative advantage in cars

B. under II, US has absolute advantage in both goods and comparative advantage in cars

C. under I, US has absolute advaniage and comparative advantage in cars

D. under II, US has absolute advantage and comparative advantage in cars

Question 49

With trade, specialization in production is likely to be

A. complete with increasing costs and incomplete with constant costs

B. complete with constant costs and incomplete with increasing costs

C. complete with constant costs and either complete or incomplete with increasing costs

D. incomplete with both constant and increasing costs

Question 50

With reference to the table below, we can say that

	Country-A	Country-B
Wheat (bushels/man-day)	6	1
Cloth (yards/man-day)	2	12

A. country B will be willing to exchange 6 bushels for 6 yards for cloth, but not country A

B. country B will be willing to exchange 6 bushels of wheat for 12 yards of cloth, but not country A

C. both country A and country B will be willing to exchange 6 bushels of wheat for 6 yards of cloth

D. None of the above

Question 51

Under the Heckscher-Ohlin model, if a labour-abundant country engaged in free trade decides to impose an import tariff of 10%, then we would expect

A. the wage and rent to increase by 10%

B. the wage to increase and rent to decrease by less than 10%

C. the wage and rent to decrease

D. the wage to decrease and rent to increase

Question 52

A country can increase its welfare by imposing an import tariff if

A. it is small and importing labour-intensive goods

B. it is small and there is no retaliation

C. it is large and there is no retaliation

D. Both (a) and (b)

JNU SIS 2019

Question 1

Choose the correct option:

A. The covariance between two random variables is bounded by -1 and $+1$

B. The correlation coefficient between two random variables is bounded between $-\infty$ and $+\infty$

C. The correlation coefficient between two variables is bounded by -1 and $+1$

D. The covariance between two variables cannot be negative

Question 2

There are two countries A and B. The age-specific death rates for all age groups in country A are higher than that in country B. Yet the overall death rate is lower in A than in B.

A. This is impossible

B. This is possible if country A has a younger population than B

C. This is possible if country A has an older population than B

D. Can't say

Question 3

A current account deficit in a nation's balance of payments accounts implies that

A. imports are equal to exports.

B. exports exceed imports.

C. expenditures are more than income.

D. income is more than expenditures.

Question 4

Which of the following will cause total revenue earned by cell phone producers to rise?

A. The demand is price elastic, and the price falls.

B. The price falls, and demand is inelastic.

C. Demand is reduced because consumers learn of new hazards of cell phone use.

D. The population in the economy increases dramatically.

Question 5

The Ricardian theory of comparative advantage depends upon

A. Factor endowment differences between countries

B. Taste-pattern differences between countries

C. Technological differences between countries

D. Size differences between countries

Question 6

Which of the following is NOT an assumption of the Harrod-Domar model?

A. Diminishing returns to input

B. Fixed proportions

C. Constant savings rate and population growth rate

D. Exogenous capital output ratio

Question 7

The classical economists attacked which of the following mercantilist propositions A. state action was necessary to direct the capitalist system. B. money had no intrinsic value. C. the wealth of a nation was closely linked to the country's stock of precious metals.

A. A and B only

B. A, B, and C

C. A and C only

D. B and Conly

Question 8

Consider utility functions u and v of the form: $u(x, y) = 2x + 3y; v(x, y) = \sqrt{(x + y)}$. Which of the following statements is true?

A. utility function u represents preferences in which x and y are perfect substitutes, while utility function v does not

B. utility function v represents preferences in which x and y are perfect substitutes, while utility function u does not

C. x and y are perfect substitutes in both utility functions u and v

D. none of the above

Question 9

If a small open country imposes a 10 percent tariff on imports of cars, then

A. the domestic price of cars will not rise because of international competition

B. the domestic price of cars will rise by less than 10 percent

C. the domestic price of cars will rise by 10 percent

D. the domestic price of cars will rise by more than 10 percent

Question 10

The supply of labor in the classical system is a function of the

A. marginal product of labor only

B. real wage only

C. the public's preference for leisure only

D. Both b and c

Question 11

Let A and B be events such that P(A) = 1/3, P(B) = 1/4 and P(AUB) = 1/2. The value of P(A/B) is

A. 1/3

B. 1/2

C. 2/3

D. 1

Question 12

A professional in India earns INR 2, 50, 000/− per month, while his/her counterpart in the UK earns GBP 5, 000/− per month. The nominal exchange rate is given by: GBP 1.00 = INR 100. However, a McDonald's burger costs GBP 3.00 in UK and INR 120.00 in India giving us an indication of the purchasing power parity between the two countries. Effectively, therefore:

A. The Indian professional is better off than his UK counterpart

B. The UK professional is better off than his Indian counterpart

C. Both are equally well off

D. Can't say

Question 13

If India's net domestic product (NDP) exceeds its gross national product (GNP), which of the following must be true?

A. Income earned by non-resident Indian citizens is less than the income earned by foreigners residing in India.

B. There is no depreciation.

C. Depreciation is greater than net exports.

D. Income earned by non-resident Indian citizens is greater than depreciation.

Question 14

Consider the function $f(x) = 3x - 5$ if $x \neq 1$ and $f(x) = 2$ if $x = 1$ Choose the correct option

A. $f(x)$ is discontinuous at $x = 1$ since it is not defined at $x = 1$

B. $f(x)$ is continuous at $x = 1$ since the left hand limit is equal to the right hand limit at $x = 1$

C. $f(x)$ is continuous at $x = 1$ since it is defined at $x = 1$

D. $f(x)$ is discontinuous at $x = 1$ since $\lim_{x \to 1} f(x) \neq f(1)$

Question 15

Consider the two following statements: (i) A good is inferior only if quantity demanded falls as price falls, (ii) If we observe an individual to demand less of a good as its price falls, we may conclude that the good is inferior for him. Then

A. Both statements are true

B. Both statements are false

C. Only the first statement is true

D. Only the second statement is true

Question 16

The maximum amount of wheat and cloth that two countries can produce with full employment of resources is given in kilograms and meters, respectively, in the table below:

	Home country	Foreign country
Wheat	600	1800
Cloth	300	600

Then the following will be true:

A. Home country will import wheat and cloth from the foreign country to increase its welfare

B. Home country will export wheat and import cloth to increase its welfare

C. Home country will import wheat and export cloth to increase its welfare

D. Home country will not engage in trade with the foreign country as the latter is too large

Question 17

The average score of 100 students in a subject was given to be 45 . At the time of scrutiny, it was found that a score of 88 was recorded as 33 by mistake. What is the corrected average score?

A. 88.33

B. 45.05

C. 45.55

D. 40.88

Question 18

Suppose that in a particular economy, the poor earn $Rs.500$ per year and spend it all on consumption, the middle class earn Rupees 2,000 per year and spend Rs. 1,500 on consumption and the rich earn Rs. $10,000$ per year and consume 80% of it. The overall savings rate in the country, if 20% people are poor and 50% are in the middle class is

A. approximately 85%

B. approximately 41%

C. approximately 21%

D. none of the above

Question 19

Suppose Y (output) $= 4,000, T($ taxes $) = tY$ where t, the marginal tax rate, is 0.3, and

government spending, G = 1,000. This is a closed economy. Now suppose G increases by 200 to 1,200, and the new level of Y after this increase is $Y = 4,400$. Then, the marginal propensity to consume is

A. $c = 0.2$

B. $c = 0.27$

C. $c = 5/7$

D. $c = 2/3$

Question 20

$f(x) = \frac{x^2-2x+4}{x^2+4x+3}$. Then $f(x)$ has

A. no points of discontinuity

B. a single point of discontinuity at $x = 2$

C. two points of discontinuity at $x = -1$ and $x = -3$

D. two points of discontinuity at x = 1 and x = 3

Question 21

As the price of coffee rises, I drink less tea. Hence

A. The income elasticity of my demand for tea is negative and cross price elasticity is positive

B. The income elasticity of my demand for tea is positive and cross price elasticity is positive

C. The income elasticity of my demand for tea is negative and cross price elasticity is negative

D. The income elasticity of my demand for tea is positive and cross price elasticity is negative

Question 22

An economy produces two goods (X and Y) with two factors of production (K and L, where X is labour-intensive and Y is capital-intensive good. If the factor intensities of production of the goods are different at any factor price range and are nonreversible, then under the assumption of constant returns to scale, an increase in the supply of labour at constant commodity prices will lead to

A. An increase in the production of X and a decrease in the production of Y

B. An increase in the production of Y but decrease in the production of X

C. An equi-proportionate increase in the production of both X and Y

D. An increase in the production of both X and Y, but proportionally more in X

Question 23

Let X be a continuous random variable with pdf $f(x) = kx$ for $0 \leq x \leq 5$ and 0 otherwise. Then the probability $P(1 \leq X \leq 3)$ is

A. 1/25

B. 9/25

C. 1/9

D. 8/25

Question 24

Assuming away any income effect on fertility decisions, in the face of high unemployment, fertility rates will tend to

A. Rise due to falling opportunity costs of child bearing and rearing

B. Rise due to rising opportunity costs of child bearing and rearing

C. Fall due to falling opportunity costs of child bearing and rearing

D. Fall due to rising opportunity costs of child bearing and rearing

Question 25

Suppose Y (output) $= 4,000$, T (taxes) $= tY$ where t, the marginal tax rate, is 0.3, the marginal propensity to consume, c, is 0.8, and government spending, $G = 1,000$. This is a closed economy. Now G increases and as a result Y also increases, such that, after the income change, the budget is exactly balanced. Then, by how much must G have increased?

A. G increases by approximately 4,000

B. G increases by approximately 3,200

C. G increases by approximately 729

D. G increases by approximately 629

Question 26

The series $\sum_{n=1}^{\infty} \frac{n2^n}{n!}$

A. Converges to a value of 1

B. Diverges by the ratio test

C. Neither converges nor diverges

D. Converges by the ratio test

Question 27

Suppose leisure is a normal good. When the hourly wage rises, all else equal, this leads to

A. decreased labour supply if the substitution effect dominates the income effect

B. decreased labour supply if the income effect dominates the substitution effect

C. increased leisure if the substitution effect dominates the income effect

D. decreased leisure if the income effect dominates the substitution effect

Question 28

An economy produces two goods (X and Y) with two factors of production (K and L), where X is labour-intensive and Y is capital-intensive good. If the factor intensities of

production of the goods are different at any factor price range and are nonreversible, then under the assumption of constant returns to scale, an imposition of a tariff by the home country on Y, which is importable for the home country, gives rise to

A. a rise in the real reward of capital

B. a rise in the real reward of labour

C. a rise in the real reward of capital and labour

D. Cannot say anything

Question 29

If $X \sim$ Binomial (n, p), E(X) = 2 and Var(X) = $\frac{4}{3}$, then the values of n and p are

A. $n = 2, p = 1/6$

B. $n = 6, p = 1/3$

C. $n = 2, p = 2/3$

D. $n = 6, p = 2/3$

Question 30

Which of the following is true of the relationship between the IS curve and the AD curve?

A. The commodity market is in equilibrium along the IS curve but it may not be in equilibrium along the AD curve.

B. An increase in government spending will shift the IS curve but it will not shift the AD curve.

C. The steeper the IS curve, the steeper the AD curve.

D. A horizontal shift of the AD curve is typically greater than the horizontal shift in the IS curve due to crowding out.

Question 31

Let $\Sigma_{n=1}^{\infty} a_n$ be a convergent series and let S be its sum. Let $S_n = \sum_{i=1}^{n} a_i$ be the n -th order partial sum. Then $\lim_{n\to\infty} S_n$ and $\lim_{n\to\infty} a_n$ are given by

A. 1 and 0 respectively

B. 0 and 1 respectively

C. S and 0 respectively

D. S and 1 respectively

Question 32

The tables below show various combinations of goods X and Y which give a consumer the indicated levels of cardinal utility.

$1util$		$4util$		$16util$	
X	Y	X	Y	X	Y
1	1	1	2	1	4
2	1/2	2	1	2	2
4	1/4	4	1/2	4	1

Which of the following options is false?

A. The marginal utility of X diminishes as X consumption increases holding Y constant.

B. The marginal rate of substitution of X for Y diminishes as X rises.

C. These preferences give rise to indifference curves which are convex to the origin.

D. An increase in the amount of X consumed increases the marginal utility of Y.

Question 33

Consider an economy where the interest rate is so low that it cannot decrease further (liquidity trap). In such an economy,

A. Monetary policy is very effective at increasing output.

B. The AD curve is horizontal.

C. The AD curve can be downward sloping if consumption increases with increase in real wealth.

D. Policymakers can never close the output gap.

Question 34

Suppose that demand in the market for Economics books is $Q_D = \max\{0, 3000 - 4P\}$ and supply is $Q_S = \max\{0, -1000 + 12P\}$. In market equilibrium, the value of consumer surplus (CS) and producer surplus (PS), respectively, are

A. $CS = 5000; PS = 5000$

B. $CS = 40,000; PS = 40,000/3$

C. $CS = 500000; PS = \frac{500000}{3}$

D. $CS = 4000000; PS = 4000000$

Question 35

Define the matrices $M = \begin{pmatrix} 0 & 1 & 0 & 0 \\ 3 & -2 & 2 & 1 \\ 0 & 15 & 0 & 1 \\ 5 & 5 & 5 & 5 \end{pmatrix}$ and $N = \begin{pmatrix} 3 & 9 & -1 & -1 \\ 0 & 1 & 0 & 16 \\ 0 & 0 & 2 & 3 \\ 0 & 0 & 0 & 2 \end{pmatrix}$ The value of the determinant of (MN) is:

A. 5

B. 12

C. 1/5

D. 60

Question 36

Which of the following statements is (are) correct? A. Under a fixed exchange rate system, potential conflicts arise between the goals of internal balance and external balance. B. With a fixed exchange rate system, there is an absence of conflicts between internal and external balance goals. C. Countries may find that expansionary policies,

which might be desired in order to reduce the unemployment rate, lead to income levels that are too high to balance the trade account and could lead to balance of payments problems.

A. A and C only

B. A, B, and C

C. B and C only

D. A and B only

Question 37

Consider the following two-player game in which each player has 3 pure strategies.

		$Player2$		
		L	C	R
	U	$4,3$	$5,1$	$6,2$
$Player1$	M	$2,1$	$8,4$	$3,6$
	D	$3,0$	$9,6$	$2,8$

Find the strategies that survive iterated elimination of strictly dominated strategies.

A. (U, L) and (D, C)

B. (U, L)

C. (D, C)

D. None of the strategies survive iterated elimination of strictly dominated strategies

Question 38

Mary's demand curve for food is $Q = 10 - 2P$. Her price elasticity of demand for food at price P* equals $(-2/3)$. How much is P* ?

A. 2

B. 4

C. 1

D. none of the above

Question 39

In a classical macroeconomic model, if the supply of labor schedule is plotted against the money wage, not the real wage, then

A. the labor supply schedule will be downward sloping.

B. an increase in the money wage will cause the labor supply schedule to shift to the left.

C. an increase in the price level will cause the labor supply schedule to shift to the left.

D. an increase in the money wage will cause the labor supply schedule to shift to the right.

Question 40

Suppose (x_1^*, x_2^*) maximizes utility subject to a budget constraint $p_1x_1 + p_2x_2 \leq y$ where (p_1, p_2) is the price vector and y is the income. Suppose the budget constraint holds as an equality at consumption bundle (x_1^*, x_2^*), which yields utility u^*. Then, the consumption bundle that minimizes expenditure subject to attaining at least u^* level of utility at price vector (p_1, p_2)

A. results in expenditure equal to y and is (x_1^*, x_2^*)

B. results in expenditure greater than y and is not equal to (x_1^*, x_2^*)

C. results in expenditure greater than y and is not equal to (x_1^*, x_2^*)

D. results in none of the above

JNU SIS 2020

Question 1

Suppose the demand for burgers is given by $Q_d = 286 - 20p$ and the supply is $Q_s = 88 + 40p$. If the government imposes a per unit tax of 1.05, what is the : A. new equilibrium price and B. tax revenue?

A. A 2.6 B 247.7

B. A 3.3 B 220

C. A 4 B 216.3

D. None of the above

Question 2

Suppose a country has abundant labour and scarce capital, and good X requires capital-intensive production and good Y requires labour-intensive production. Then free trade will lead to :

A. Decrease in wage in the country

B. Decrease in the price of capital in the country

C. Decrease in the price of good X in the country

D. Increase in the price of good Y in the country

Question 3

Suppose that a monopolist faces two markets with the demand curves given by $D_1(p_1) = 100 - p_1; D_2(p_2) = 100 - 2p_2$. Let the marginal cost be constant and equal to 20 . If the monopolist must charge the same price in each market, what price should it charge ?

A. $p^\star = \left(43\frac{1}{3}\right)$

B. $p^* = 50$

C. $p^* = 60$

D. None of the above

Question 4

On labour market equilibrium, Keynes made the following assumptions:

A. Downward rigidity of nominal wages

B. Perfectly flexible nominal wages

C. Downward rigidity of real wages

D. Perfectly flexible real wages

Question 5

For what values of k does this system have infinite solutions: $x + 2z = 0\ x + 3y + 10z = 0$ $6y + k^2z = 0$

A. k = 4 or k = −4

B. k = −4 or k = 0

C. k = 16 or k = −16

D. k = 4 or k = 0

Question 6

Compared to the free trade equilibrium, when an import tariff is imposed on good X in a small country, then which of the following increase: A. Domestic output of good X B. Domestic demand of good X C. Domestic price of good X D. Domestic tariff revenue Then the following is correct:

A. A and C only

B. B and D only

C. A, C and D only

D. A, B, C and D

Question 7

Does the sequence $\sum_{n=0}^{\infty} \frac{n^7}{6^n}$ converge or diverge ?

A. Always converges

B. Always diverges

C. Converges for some values of n and diverges for others

D. Not enough information to answer the question

Question 8

A variable X has a uniform distribution on $[0, 1]$ and variable Y is defined as $2X + 5$. Then the probability density function of Y is :

A. 1/7

B. 1/5

C. 1/2

D. 1

Question 9

Suppose demand for labour is given by L = −50w + 450 and supply is L = 100w, where L is the number of labour and w is the wage rate per hour. Suppose the government wishes to raise the equilibrium wage to 4 by offering a subsidy to employers for each person hired. A. What will be the new equilibrium level of employment? B. How much total subsidy will be paid ?

A. A 500 B 1000

B. A 400 B 1200

C. A 300 B 4

D. None of the above

Question 10

Informal lender extends credit to the poor more than formal lenders because :

A. Relative to commercial banks, informal lenders can more easily circumvent informational asymmetries.

B. Relative to commercial banks, informal lenders are less risk averse and charge lower interest rates.

C. Informal lenders do not face transaction costs and therefore they can lend at more affordable rates of interest.

D. None of the above

Question 11

Which of the following functions have inverses on $(-\infty, \infty)$? A. $y = 5x - 2$ B. $y = 1 - x^2$ C. $y = x^3 - 2$

A. A only

B. A and B only

C. A and C only

D. A, B and C only

Question 12

Suppose that 10 people live in a street and that each of them is willing to pay 2 for an extra streetlight. Let the cost of providing x streetlights be $c(x) = x^2$. What is the Pareto-efficient number of streetlights ?

A. 1

B. 10

C. 5

D. None of the above

Question 13

Which of the following will cause total revenue earned by cell phone producers to rise ?

A. Demand is reduced because consumers learn of new hazards of cell phone use

B. The demand is price elastic and the price falls

C. The price falls and the demand is inelastic

D. None of the above

Question 14

Which of the following statements related to the concept of disguised unemployment is false?

A. The marginal revenue product of labour is less than the wage

B. The marginal revenue product of labour is zero with a positive wage

C. More people are engaged in an activity than the numbers required for it

D. None of the above

Question 15

For the demand function given by $q = \frac{30}{p^2}$, where q is quantity and p is the price. Find the consumer surplus at $p = 2$.

A. 15

B. 10

C. 30

D. None of the above

Question 16

Consider a simple Keynesian model where equilibrium output is determined by aggregate demand. Assume investment to be autonomously determined and a constant (s) proportion of income is saved. A rise in 's' in this model will lead to :

A. An increase in equilibrium output

B. A decrease in equilibrium output

C. No change in equilibrium output

D. Can't say

Question 17

The probability density function of a random variable X is given by $f(x) = \alpha(1-x)^{\alpha-1}$ where x is in the range $[0, 1]$ and $\alpha > 0$. Then the median of X is :

A. $2^{-1/\alpha}$

B. $1 - 2^{-1/\alpha}$

C. $1/2$

D. $1/2^{\alpha}$

Question 18

If two countries have identical concave production possibilities curve then :

A. There would be no basis for gainful trade

B. Trade would depend on differences in demand conditions

C. Trade would depend on economies of large scale production

D. Trade would depend on the use of different currencies

Question 19

The conjecture that inequality first increases with development, then decreases with further development, has been:

A. Strongly supported by most studies

B. Supported by cross sectional studies, not time-series studies

C. Supported by time series studies, not cross sectional studies

D. Generally not supported by empirical studies

Question 20

The table below provides the total production possible in the two countries given their total endowment of labour.

Country	Yards of Cloth	Tons of Rice
Bangladesh	1000	500
India	5000	1500

If the world equilibrium price of Rice is 3 yards of Cloth, then

A. Both countries would like to specialize in Cloth

B. Both countries would like to specialize in Rice

C. Both countries would benefit from trade with each other

D. Neither country would benefit from trade with each other

Question 21

In the standard IS-LM model, we replace the assumption of exogenous money supply with an endogenous money supply as an increasing function of interest rate. Now the LM curve will:

A. be flatter

B. be steeper

C. be negatively sloped

D. remain unchanged

Question 22

The table below gives the marginal product of labour in production of the two commodities in the two countries. There are no other resources used for production

Country	Marginal Product in Cloth	Marginal Product in Rice
Bangladesh	4	2
India	5	5

Then for mutually beneficial trade between the two countries Bangladesh would be willing to :

A. Export Rice and import Cloth

B. Export Cloth and import Rice

C. Export both Rice and Cloth at 1 : 1 terms of trade

D. Import both Rice and Cloth at 1 : 1 terms of trade

Question 23

According to the Ranis-Fei-Lewis model, in order for the turning point to be reached :

A. Wage in agriculture sector must rise in response to a food shortage

B. Wage in agriculture sector must remain at subsistence

C. Wage in industrial sector must decrease

D. None of the above

Question 24

$\lim_{x\to\infty} \frac{\ln(1+x)}{x}$ is equal to:

A. 0

B. ∞

C. 1

D. Not defined

Question 25

An unbiased coin is tossed 400 times, then the probability that the number of heads will be between 150 and 250 is at least:

A. 1/25

B. 12/25

C. 24/25

D. 1

Question 26

A population consists of the number of defective mobiles in various shipments coming to India. The number of defectives is 2 in the first shipment, 4 in the second, 6 in the third, and 8 in the fourth. What will be the mean and standard deviation of this population ?

A. $5, \sqrt{5}$

B. $5, \sqrt{15}$

C. $3, \sqrt{3}$

D. $6, \sqrt{6}$

Question 27

Solve: $\min y = x_1 + x_2$ subject to $1 - \sqrt{x_1} - x_2 = 0$

A. $\bigcirc 1* = \frac{1}{9}, x_2^* = \frac{2}{3}$

B. $x_1{}^* = \frac{1}{4}, x_2{}^* = \frac{1}{2}$

C. $x_1* = 1, x_2^* = 0$

D. None of the above

Question 28

Solve for x given $2e^{6x} = 18$

A. $x = \frac{(\log 9)}{6}$

B. $x = (\log 18)$

C. $x = 18$

D. None of the above

Question 29

Suppose the government imposes a profit tax on a monopoly so that the after-tax profit becomes $(1-\alpha)\pi$ where p is the before tax profit. After the imposition of the tax:

A. The quantity sold remains the same

B. The quantity sold decreases

C. The price increases

D. None of the above happens

Question 30

Find the probability of a '4' turning up at least once in two tosses of a fair dice (with six faces marked 1 to 6).

A. 1/36

B. 1/18

C. 11/36

D. 1/3

Question 31

The probability density function of a random variable is given as $f(x) = \frac{\lambda^x e^{-\lambda}}{x!}$ where $x = 0, 1, 2, \ldots$ then the expected value of x^2 is :

A. λ

B. λ^2

C. $\lambda(\lambda + 1)$

D. $1 - \lambda^2$

Question 32

There are 200kgs of food that must be allocated between two sailors marooned at an island. The utility functions of the two sailors are given by $\mathbf{u}_1 = \sqrt{F_1}, u_2 = \frac{1}{2}\sqrt{F_2}$ where $F_i, i = 1, 2$ is the quantity of food consumed by sailor i. Suppose the social welfare function is of the firm $w = \sqrt{u_1}\sqrt{u_2}$. How should food be allocated between the sailors so as to maximize social welfare ?

A. 200,200

B. $140, 70$

C. 100,100

D. None of the above

Question 33

Consider a model where the R-squared is zero. Which of the following statements is true ? A. The estimated slope coefficients will be zero. B. The fitted line will be horizontal. C. The explanatory variables do not explain any of the variability in the outcome variable around its mean value. D. The estimated intercept coefficient will be zero.

A. B and D only

B. A and C only

C. A, B and C

D. A, B, C and D

Question 34

What conditions need to hold before you can apply Mean Value Theorem to a function f?

A. must be continuous on $[a, b]$ and differentiable on (a, b)

B. f must be continuous on [a, b] and differentiable on (a, b) and f(a) = f(b)

C. f must be continuous on (a, b)

D. None of the above

Question 35

According to the big push theory of economic development, low income traps exist due to :

A. Moral hazard

B. Decreasing returns

C. Coordination failures

D. Population pressure

Question 36

A strictly risk averse individual is offered a choice between a gamble that pays 1000 with a probability of 25% and 100 with a probability of 75%, and a payment of 325 for sure. Which one of the following is true?

A. Individual chooses the sure outcome

B. Individual chooses the gamble

C. Individual is indifferent between choosing the gamble and the sure outcome

D. We cannot say which one would the individual choose based on the above information

Question 37

Can you apply the Mean Value Theorem to $f(x) = x^{1/3}$ on the interval $[-1, 1]$? Why?

A. Yes, as $f(x)$ is continuous in this interval

B. No, since $f(x)$ is not differentiable on $(-1, 1)$

C. No, since $f(x)$ is not continuous on $[-1, 1]$

D. Yes, as $f(x)$ is continuous in $[-1, 1]$ and differentiable in $(-1, 1)$

Question 38

Which of the following constitute the "impossible trinity"? A. Fixed exchange rate B. No budget deficit C. Free international capital mobility D. Independent monetary policy E. Balance in the balance of payments

A. A, B, C only

B. B, D, E only

C. A, C, D only

D. A, C, E only

Question 39

A newspaper conducted a survey of its readers and asked everyone to fill out a survey form and send it in. Almost 50% of readers responded. This type of sample is called:

A. A cluster sample

B. A simple random sample

C. A self-selected sample

D. A stratified random sample

Consider an open economy simple Keynesian model with autonomous investment (I), constant propensity to save (s) out of disposable income, a constant rate of taxation (t) by the government on total income, an exogenous amount of government expenditure (G), an autonomous level of exports (X) and imports determined as a function of income with a constant import intensity (m). Let I = 4800 G = 6000 X = 1200 s = 0.5 t = 0.4 m = 0.1

Question 40

In the above model, the equilibrium level of income is :

A. 12000

B. 24000

C. 15000

D. None of the above

Question 41

In the above model, at the equilibrium level of income, there is :

A. Trade surplus

B. Trade deficit

C. Balanced trade

D. Can't say

Question 42

In the above model, the government decides to maintain trade balance by adjusting the tax rate (t) and thereby affecting domestic absorption, without changing anything else. It is :

A. Possible to attain this by increasing tax rate (t) to 0.8

B. Possible to attain this by reducing tax rate (t) to 0.2

C. Possible to attain this be keeping tax rate (t) unchanged at 0.4

D. None of the above

Question 43

$f(x) = x^4 - 4x^3 + 4x^2 + 4$ Find a local minimum and a local maximum of the function $f(x)$.

A. 1,2

B. 3,4

C. 2, 1

D. None of the above

Question 44

Similar to import tariff, import quota tends to result in :

A. Increased consumer surplus and producer surplus

B. Decreased imports and decreased producer surplus

C. Increased government revenue and price

D. Increased producer surplus and price

Question 45

Past data of a doctor's clinic tells that 10% of patients entering have liver diseases and 5% are alcoholics. According to medical reports among those patients who are diagnosed with liver diseases, 7% are alcoholics. What is the probability of alcoholic people having liver diseases?

A. 0.14

B. 0.0005

C. 0.07

D. Cannot be derived

Question 46

Which of the following statements is false ?

A. Gini coefficient satisfies all four principles of measures of inequality.

B. The Pigou-Dalton principle states that a progressive transfer from a richer to a poorer person must make the resulting distribution more unequal.

C. Cross country evidence supports the Kuznets curve hypothesis.

D. If Lorentz curves cross, Gini and coefficient of variation may give different rankings of inequality.

Question 47

A firm in a perfectly competitive industry has marginal cost $MC = 0.4q$ where q is quantity. The market price is 20 per unit. The production process of this firm is polluting the air and the social marginal cost (including private and pollution cost) is SMC = 0.5q. A. What is the socially optimal level of production for the firm ? B. What should be the per unit tax imposed by the government so that the firm produces socially optimal level of output?

A. A 40 B 4

B. A 50 B 10

C. A 40 B 5

D. None of the above

Question 48

What is $\frac{dy}{dx}$ when $y = \frac{e^{2x}+1}{e^{2x}-1}$

A. $\frac{e^{2x}}{e^{2x}-1}$

B. $\frac{e^{4x}}{(e^{2x}-1)^2}$

C. $\frac{-e^{4x}}{e^{2x}-1}$

D. $\frac{-4e^{2x}}{(e^{2x}-1)^2}$

Question 49

In the complete Keynesian macro model, at the liquidity trap region, the aggregate demand curve will be :

A. downward sloping

B. upward rising

C. horizontal

D. vertical

Question 50

Consider a random variable X where $P(X = k) = \frac{20!0.25^k(0.75)^{20-k}}{k!(20-k)!}$ For $k = 0, 1, 2, \ldots, 20$ What is the mean of X ?

A. 2.5

B. 5

C. 7.5

D. 3

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Question 1

According to the Lewis Model, as industry expands, it is able to withdraw labour from agriculture without affecting agricultural output because

A. there is no fixed capital in agriculture
B. there are diminishing returns to labour in agriculture
C. the marginal product of labour in agriculture is zero
D. none of the above

Question 2

In a four-sector economy, which of the following is assumed always to increase when GDP increases?

A. I (Investment)
B. G (Government Expenditure)
C. M (Import)
D. X (Export)

Question 3

Let X be a continuous random variable with probability density function as given $f(x) = \begin{cases} kx & ;0 \leq x \leq 5 \\ 0 & ; \text{Otherwise} \end{cases}$ below: Then what is the value of the following $\Pr\{1 \leq X \leq 3\}$?

A. 8/25
B. 9/25
C. 10/25
D. 11/25

Question 4

If the interest rate is higher in country X than in country Y, then

A. the currency of country X is expected to appreciate relative to the currency of country Y.
B. the currency of country Y is expected to appreciate relative to the currency of country X.
C. the effect on the expected exchange rate is uncertain.
D. none of the above is true.

Question 5

Suppose the demand for a commodity Q is the following function of its own price P_Q, price of another commodity P_X, and income Y and A is a constant term.

$$Q = \frac{AYP_X^{\beta}}{P_Q^{\alpha}}, \alpha > 0$$

A. The demand for Q is elastic when $\alpha > 1$ and X is a substitute for commodity Q when $\beta > 0$. Option ID :- 140752,

B. The demand for Q is inelastic when $\alpha > 1$ and X is a complement for commodity Q . when $\beta > 0$. Option ID :- 140753 ,

C. The demand for Q is elastic when $\alpha > 1$ and X is a substitute for commodity Q when - $\beta < 0$. Option ID :- 140754,

D. The demand for Q is inelastic when $\alpha > 1$ and X is a substitute for commodity Q when $\beta < 0$.

Question 6

Two income distributions are given below where the first set of numbers denotes incomes and the second set of numbers denotes the number of people earning each of hose incomes Income distribution 1: $(100, 200, 300, 400); (50, 25, 75, 25)$ Income distribution 2: $(200, 400, 600, 800); (50, 25, 75, 25)$ The Lorenz curves for the two distributions will A. be the same based on relative income B. violate the Dalton principle C. be indeterminate Choose the correct answer from the options given below

A. A only

B. B only

C. B and C only

D. none of the above

Question 7

Consider two economies that are identical, with the exception that one has a high marginal propensity to consume (mpc) while the other has a low mpc. If the money supply is increased by the same amount in each economy, the high mpc economy will experience:

A. A larger increase in output.

B. A smaller decrease in the interest rate.

C. A smaller increase in output.

D. A larger decrease in the interest rate.

Choose the correct answer from the options given below:

A. A only

B. A and B only

C. B and C only

D. C and D only

Question 8

Suppose the technology exhibits constant returns to scale. Then the maximum economic profit of a competitive producer

A. Can be negative but not positive

B. Can be positive but not negative

C. Cannot be positive

D. Can be negative or positive

Question 9

Consider a small country with the domestic demand and domestic supply for pens given as

$Q_D = 10 - P$

$Q_s = -2 + P$

Initially the small country engages in free trade at the international price of **2** units, but now the government imposes an import tariff of 1 unit, then government import tariff revenue would be

A. 4

B. 9

C. 7

D. 6

Question 10

Which of the following is NOT consistent with Rosenstein-Rodan's theory of development?

A. piecemeal investment will promote economic development

B. social overhead capital has large indivisibilities

C. social overhead capital must be produced before directly productive activities Choose the correct answer from the options given below:

A. A only

B. A and B only

C. B only

D. C only

Question 11

A. marginal product of labor. B. real wage. C. the public's preference for leisure. D. money wage.

Choose the correct answer from the options given below:

A. A only

B. A and D only

C. B and C only

D. C and D only

Question 12

While solving for a competitive equilibrium in a general equilibrium model with **N** commodities a price normalization is required because of which of the reasons below:

A. The homogeneity of degree zero of demands of consumers and supplies of producers in prices

B. The Walras law

Choose the correct answer from the options given below:

A. A only

B. B only

C. Both A and B

D. Neither A nor B

Question 13

Think of a macroeconomy described by the following: $C = 200 + 0.5(Y - T)$;

$T = 100 + 0.2Y; NX = 150 - 0.2Y; I = 300; G = 400$, where Y is the national income or GNP, C is the consumption function, T is the tax function, I and G are investment and government expenditures respectively, and NX refers to net exports. Then, the equilibrium value of government deficit/ surplus will be:

A. a deficit of 50.

B. a surplus of 50.

C. a deficit of 125.

D. a surplus of 75.

Question 14

Let $f(x) = x^2$, and the domain of x is $[1, 2]$. Which of the following statements is true?

A. The maximum of $f(x)$ is at $x = 0$,

B. The function does not have a maximum

C. The minimum of $f(x)$ is at $x = 1$

D. None of the above

Question 15

Consider two countries, A and B. In both the countries, the production function is given by a Cobb-

Douglas technology: $Y = AK^{\frac{1}{3}}L^{\frac{2}{3}}$, where K and L are physical capital and labour. Further, in both countries, the growth rate of labor force is 0.1 per period, physical capital depreciates at the rate 0.1 per period, and $A = 1$. The saving rates differ between countries:

$S_A = 0.2$ in country A and $S_B = 0.4$ in country B. Then, the steady state level of capital-labor ratio (K/L) in the two countries will be:

A. $\left(\frac{K}{L}\right)_A = 2, \quad \left(\frac{K}{L}\right)_B = 1$

B. $\left(\frac{K}{L}\right)_A = 2^{\frac{3}{2}}, \quad \left(\frac{K}{L}\right)_B = 1$

C. $\left(\frac{K}{L}\right)_A = 1, \quad \left(\frac{K}{L}\right)_B = 2$

D. $\left(\frac{K}{L}\right)_A = 2^{\frac{3}{2}}, \quad \left(\frac{K}{L}\right)_B = 2^{\frac{3}{2}}$

Question 16

Suppose that X and Y have the following joint probability distribution:

Y →	−3	2	4	Sum
X ↓				
1	0.1	0.2	0.2	0.5
3	0.3	0.1	0.1	0.5
Sum	0.4	0.3	0.3	1

The covariance between X and Y is:

A. 0

B. 1

C. -1

D. -1.2

Question 17

Assume that $C = c_0 + c_1(Y - T)$, where C is the Keynesian consumption function, C_0 is autonomous consumption, C_1 is the marginal propensity to consume $(c_1 < 1)$, Y is GDP and T is taxes. Suppose that taxes increase and money supply increases in such a way that output is held constant in equilibrium. Ceteris paribus, these specific policy changes will generate:

A. an increase in investment and a decrease in private consumption.

B. an increase in investment and a decrease in government spending.

C. an increase in investment and an increase in private saving.

D. a decrease in investment and a decrease in public saving.

Question 18

What is the determinant of the matrix

$$\begin{pmatrix} 0 & 1 & 2 \\ 3 & 4 & 5 \\ 6 & 7 & 8 \end{pmatrix}?$$

A. 0

B. 2

C. 2

D. 1

Question 19

The maximum quantity of food and cloth that two countries A and B can produce by using all of the factors of production in their respective countries at constant cost is given below in the table:

	Country A	Country B
Food	600	400
Cloth	800	200

If the countries open up to free trade, then

A. A will export both food and cloth to B

B. A will export food to B and import cloth from B

C. A will export cloth to B and import food from B

D. A will not trade, as there is no scope for gains from trade

Question 20

Which of the following is not a convincing argument for a negatively sloping AD (Aggregate Demand) curve?

A. A rise in the price level in a country will tend to lead to a fall in the real value of exports and a rise in the real value of imports

B. A rise in the price level in a country will lead to lower real spending because it will lead to lower real wealth

C. A rise in the price level in a country will necessarily reduce the real value of firms' profits, causing them to reduce planned investment

D. A rise in the price level in a country will lead to lower real spending because it will lead to a higher interest rate

Question 21

Suppose the real wage in a country is at the equilibrium level, but there is some natural unemployment.

Which of the following does not help to explain this natural unemployment?

A. At the equilibrium wage, some people will prefer to stay at home with their families than have paid employment

B. At the equilibrium wage, some people who recently returned to the labour force after caring for young children will be unemployed while they wait for what they feel is the right job

C. At the equilibrium wage, some people may be unemployed because the demand for their skills has fallen and there are no suitable jobs available

D. At the equilibrium wage, some new graduates will be unemployed while they wait for what they feel is the right job

Question 22

Consider the following regression equation: $y_i = \alpha + \beta_1 x_{1i} + \beta_2 x_{2i} + \beta_3 x_{3i} + u_i$.

Which one of the following would be a possible restricted regression for a test of the null hypothesis $H_0 : \beta_1 + \beta_2 = 1$?

A. $y_i = \alpha + \beta_1 x_{1i} + \beta_2 x_{2i} + \beta_3 x_{3i} + u_i$

B. $y_i = \alpha + \beta_2 (x_{2i} - x_{1i}) + \beta_3 x_{3i} + u_i$

C. $(y_i - x_{1i}) = \alpha + \beta_2 (x_{2i} - x_{1i}) + \beta_3 x_{3i} + u_i$

D. $(y_i - x_{1i}) = \alpha + \beta_2 x_{2i} + \beta_3 x_{3i} + u_i$

Question 23

For a symmetric distribution which of the following is true?

A. The kurtosis is zero

B. The skewness is zero

C. The mean is zero

D. The variance is zero

Question 24

If the competitive equilibrium price of a good is zero then which of the following situations is indicated

A. There is an excess supply of the good

B. Consumer preferences are such that more of the good is preferred to less.

C. The economy has a zero initial endowment of the good.

Choose the correct answer from the options given below:

A. A only

B. B and C only

C. C only

D. A and C only

Question 25

If the determinant of a matrix is zero, then which of the following is true?

A. The inverse exists

B. The inverse does not exist

C. The columns are linearly independent

D. The matrix is full rank

Question 26

Let A and B be independent events with $P(A) = 1/2$ and $P(AUB) = 2/3$. Then $P\left(B^C A\right)$ is (here Bc indicates the complement of event B)

A. 1/2

B. 1/3

C. 2/3

D. 4/3

Question 27

The elasticity of substitution between capital (K) and labour (L) for the production function $Y = (K^{\rho} + L^{\rho})^{\frac{1}{\rho}}, \rho \neq 0$, tends to A. 1 as $\rho \longrightarrow 0$ B. ∞ as $\rho \rightarrow -\infty$ C. ∞ as $\rho \longrightarrow 0$

Choose the correct answer from the options given below:

A. B only

B. A only

C. C only

D. A and B only

Question 28

The specialization in production due to free trade is likely to be

A. Complete with increasing opportunity costs

B. Complete with constant opportunity costs

C. Incomplete with increasing opportunity costs

D. Incomplete with constant opportunity costs

Choose the correct answer from the options given below:

A. A and D only

B. B and C only

C. C and D only

D. A, and either B or D

Question 29

If the domestic demand and domestic supply for shirts in a small country are given as $Q_D = 11 - 2P$

$Q_s = -1 + 2P$

and if the international price of shirts is 2 units, then the country will

A. Export 2 shirts

B. Import 2 shirts

C. Export 4 shirts

D. Import 4 shirts

Question 30

Suppose that the value of R2 for an estimated regression model is exactly zero. Which of the following are true?

A. All coefficient estimates on the slopes will be zero

B. The fitted line will be horizontal with respect to all of the explanatory variables

C. The regression line has not explained any of the variability of y about its mean value

D. The intercept coefficient estimate must be zero

A. A,B,C and D

B. A,B and C

C. A and B

D. C and D

Question 31

Country A takes 20 labour hours to produce a yard of cloth and 100 labour hours to produce a ton of wheat, while Country B takes 20 labour hours to produce a yard of cloth and 20 labour hours to produce a ton of wheat. Then which of the following statement is true:

A. There is no potential for mutual gains from trade between the two countries A and B

B. There is potential for mutual gains from trade always irrespective of the relative price

C. There is potential for mutual gains from trade always irrespective of the relative price

D. There is potential for mutual gains from trade always irrespective of the relative price,

Question 32

According to Keynes, if the consumption-income relationship is given as $C = a + bY_D$, where Y_D is disposable income and a and b are constants, then the saving-income relationship is:

A. $S = a + (1 - b)Y_D$

B. $S = -a + (1 - b)Y_D$

C. $S = a + (1 - b)/Y_D$

D. $S = -a + (1 - b)/Y_D$

Question 33

Suppose parking fees at South Extension increases. If demand is relatively elastic then

A. total revenue from parking fees will fall

B. total revenue from parking fees will rise

C. total revenue from parking fees is constant.

D. the direction of change in total revenue cannot be determined.

Question 34

Which of the following is NOT a possible cost of high fertility rate and rapid population growth A. increasing B. increased congestion C. higher labour force growth rate and higher unemployment Choose the correct answer from the options given below:

A. A only

B. A and B only

C. A and C only

D. all of the above

Question 35

At what compound rate of interest **r** per annum will a sum double itself in **t** years, when interest is computed annually?

A. $r = \frac{\ln 2}{\ln t}$

B. $r = \frac{\ln 2}{\ln(t+1)}$

C. $r = e^{\frac{\ln 2}{t}} - 1$

D. $r = e^{\frac{\ln 2}{t}}$

Question 36

One study found that the Gini coefficient for Country A was 0.3 and that of Country B was 0.33. From this information we can conclude that Country A and Country B

A. had virtually the same number of households in absolute poverty

B. had virtually the same percentage of households in absolute poverty

C. had virtually the same Human Development Index level

D. none of the above

Question 37

Consider the Cournot duopoly model, where inverse demand is given by $P(Q) = 100 - Q, Q = q_1 + q_2$. Let the marginal costs of two firms be $c_1 = 30$ and $c_2 = 55$. Determine the Nash equilibrium of the game.

A. $q_1 = q_2 = 70/3$

B. $q_1 = 95/3, q_2 = 20/3$

C. $q_1 = 45, q_2 = 20,$

D. None of the above

Question 38

The derivative $f'(x)$, of the function $f(x) = x^3 e^x$ is

A. $3x^2 e^x$

B. $e^x \left(x^3 + x\right)$

C. $x^3 e^x,$

D. $x^2 e^x (3 + x),$

Question 39

If the distribution of income in a country is $(100, 120, 140, 155)$ and the poverty line is 150 , then poverty as denoted by the headcount ration _____compared to the poverty gap measure.

A. is higher

B. is lower

C. is same as

D. cannot be determined

Question 40

For which of the following probability distribution is mean > variance?

A. Binomial distribution

B. Poisson distribution

C. Exponential distribution

D. Normal distribution

Question 41

The Harrod-Domar growth model suggests that growth is

A. directly related to savings and inversely related to the capital/output ratio.

B. directly related to the capital/output ratio and inversely related to savings.

C. indirectly related to savings and the capital/ output ratio

D. directly related to savings and the capital/output ratio.

Question 42

If a borrower takes actions that may not lead to the best project outcome and therefore, a high risk of default, but this cannot be observed by the lender then this is related to the problem of

A. balance of trade

B. moral hazard

C. social goods

D. hyperinflation

Question 43

Suppose the utility function has the form

$U(x_1, x_2) = G\left(f(x_1, x_2)\right)$

where G is an increasing function, i.e., $G' > 0$, and function f is increasing and homogenous of degree one in its arguments. Which of the following are true:

A. The price consumption curve is an upward sloping straight line from the origin

B. The income consumption curve is a straight line from the origin.

C. The two goods are normal goods.

D. The marginal rate of substitution between the two goods depends only on the ratio in which the two goods are consumed.

Choose the correct answer from the options given below:

A. A only

B. A, B, and C only

C. B, C, and D only

D. All of A to D are true.

Question 44

Suppose both the output and input prices faced by a competitive profit maximizing producer double. Then the maximum profit he can earn

A. will remain unchanged

B. will reduce

C. will double

D. can reduce, increase, or remain unchanged

Question 45

Consider the following two regression models:

Model 1: $y_i = \alpha_0 + \alpha_1 x_{1i} + u_i$

Model 2: $y_i = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + u_i$

Which of the following statements are true?

A. Model 2 must have an R^2 at least as high as that of model 1

B. Model 2 must have an adjusted R^2 at least as high as that of model 1

C. Models 1 and 2 would have identical values of R^2 if the estimated coefficient on β_2 is zero

D. Models 1 and 2 would have identical values of adjusted R^2 if the estimated coefficient on β_2 is zero

Choose the correct answer from the options given below:

A. A, B, C and D

B. A, B and C only

C. A and Conly

D. Band D only

Question 46

A positively sloped LM schedule will be relatively flat if the interest elasticity of money demand is

A. low.

B. zero.

C. infinity.

D. high.

Question 47

Two managers can invest effort in creating a better working relationship. Each invests $e_i \geq 0$, and if both invest more then both are better off, but it is costly for each manager to invest. The payoff function for player i from effort

levels (e_i, e_j) is $v_i(e_i, e_j) = (a + e_j) e_i - e_i^2$. The Nash equilibrium of this game is

A. $e_i = e_j = a$

B. $e_i = e_j = a/2$

C. $e_i = e_j = 2a$

D. $e_i = a, e_j = 2a$

Question 48

Let A and B be events such that $P(A) = 1/2, P(B) = 1/3$ and $P(AB) =$ value of $P(A/B)$ is [Here, $P(A/B)$ indicates probability of A conditional on B]

A. $1/2$

B. $3/4$

C. $1/8$

D. $4/3$

Question 49

Consider the Keynesian consumption function: $C = C_0 + C_1(Y - T)$ and goods market clearing is given by: $Y = C + I + G$. Then, autonomous spending is captured by:

A. C_0,

B. $I + G$

C. $c_0 + I + G$

D. $c_0 + I + G - c_1 T$

Question 50

Compute $\int_1^2 x \ln x dx$

A. $\frac{1}{2}\ln(1) - 1/4$

B. $2\ln(2) - \frac{1}{2}\ln(1) - 3/4$

C. $2\ln(2) - 1/2$,

D. None of the above

Question 51

Which one of the following is NOT an example of misspecification of functional form in regression analysis?

A. Using a linear specification when y scales as a function of the squares of x

B. Using a linear specification when a double-logarithmic model would be more appropriate

C. Modelling y as a function of x when in fact it scales as a function of $1/x$

D. Excluding a relevant variable from a linear regression model

Question 52

According to the classical macro model, which of the following is NOT consistent with perfect competition?

A. Labor demand is determined by real wages and the marginal product of labor.

B. Workers are unique and bargain individually for their wages.

C. The marginal product of labor is diminishing.

D. Workers have no influence on their wages but accept them as given.

Question 53

Suppose $U = u(t)$ and $V = v(t)$ are two variables which are functions of time t. The expression for the rate of growth of $Y(\text{rog}\, Y)$ when $Y = U - V$ is

A. $-\,\text{rog}\,\text{Y} = \text{rog}\,\text{U} - \text{rog}\,\text{V}$

B. $\text{rog}\,\text{Y} = u\,\text{rog}\,\text{U} - v\,\text{rog}\,\text{V}$

C. $\text{rog}\,\text{Y} = \text{rog}\,\text{U}/\text{rog}\,\text{V}$

D. $\text{rog}\,\text{Y} = (\text{u}\,\text{rog}\,\text{U} - \text{v}\,\text{rog}\,\text{V})/(\text{u} - \text{v})$

Question 54

Which of the following is NOT a component of the Human Development Index?

A. expected years of schooling of children at school entry age

B. gross national income per capita in purchasing power parity terms

C. life expectancy

D. infant mortality rate

Question 55

Free trade is the optimal trading policy for

A. small country

B. large country

C. both small and large countries

D. neither small nor large country

Question 56

Consider the labor market for workers characterized by the following supply and demand curves

$S(w) = -50 + 5w$

$D(w) = 1000 - 10w$ Compute the worker surplus.

A. 0

B. 9000

C. 500

D. 300

Question 57

In the simple Ricardian model with labour being the only resource to produce two goods at constant costs, the pre-trade price of goods is

A. determined by the absolute demand for the goods

B. determined by the absolute endowment of labour

C. determined by the relative demand for the goods

D. independent of the demand for goods

Question 58

Suppose p and y denote the vector of prices and income, respectively. Suppose consumption bundle x^0 is chosen in a budget scenario (p^0, y^0) and x^1 is chosen in a different budget scenario (p^1, y^1) so that $p^0x^0 = y^0, p^1x^1 = y^1, p^0 \neq p^1$, and $x^0 \neq x^1$. Which of the following is/are not consistent with the weak axiom of revealed preference (WARP)?

A. $p^1x^0 \leq y^1$ and $p^0x^1 > y^0$

B. $p^0x^1 \leq y^0$ and $p^1x^0 \leq y^1$

C. $p^0x^1 \leq y^0$ and $p^1x^0 > y^1$

Choose the correct answer from the options given below:

A. A only

B. B only

C. C only

D. A and C only

Question 59

What would be the consequences for the OLS estimator if heteroscedasticity is present in a regression model but ignored? A. It will be biased B. It will be inconsistent C. It will be inefficient D. None of the above

Choose the correct answer from the options given below:

A. A, B and C only

B. B only

C. C only

D. D only

Question 60

Suppose that a representative, perfectly competitive firm in the market has production function $F(K, L) = K^{1/2}L^{1/2}$,where K denotes capital and L denotes labor. The price of the firm's product is denoted by p. Let w and r denote price of L and K, respectively. Suppose the capital is fixed at some level $\bar{K}$. What is the firm's choice of labor as a function of factor prices, product price and fixed capital?

A. $L = \left(\frac{1}{4}\right)\left(\frac{p^2}{w^2}\right)(\bar{K})$,

B. $L = p^2/w^2$

C. $L = p\bar{K}/w$

D. None of the above

Question 61

Under the matrix notation for the classical linear regression model with T data points and k explanatory variables, $y = x\beta + u$, what are the dimensions of u ?

A. T x k

B. T x 1

C. k x 1

D. 1×1

Question 62

The solution to the following minimization problem:

min $y = x_1 + x_2$ subject to the constraint $1 - \sqrt{x}_1 - x_2 = 0$ is

A. $x_1 = 1, x_2 = 2$

B. $x_1 = 1/3, x_2 = 1$

C. $x_1 = 1/4, x_2 = 1/2$,

D. None of the above

Question 63

One factor which does NOT influence the levels of real output and employment in the classical macro model is the

A. money supply.

B. level of technology.

C. stock of capital.

D. size of the labor force.

Question 64

Suppose that A is (5X4) matrix, B is ($r \times s$) matrix and C is $(p \times 3)$ matrix. If $A^\top BC^\top$ is defined (where $A^\top$ and $C^\top$ are transposes of A and C respectively), then the value of r and s are

A. $r = 5, s = 3$

B. $r = 3, s = 5$

C. $r = 3, s = 3$

D. $r = 5, s = 5$

Question 65

Near multicollinearity occurs when

A. Two or more explanatory variables are perfectly correlated with one another

B. The explanatory variables are highly correlated with the error term

C. The explanatory variables are highly correlated with the dependent variable

D. Two or more explanatory variables are highly correlated with one another

Question 66

If the following matrix is singular, then what is the value of α?

$$\begin{pmatrix} 1 & 2 & 1 \\ 2 & 0 & \alpha \\ 1 & \alpha & 1 \end{pmatrix}$$

A. 0

B. 1

C. 2

D. 3

Question 67

A country uses capital and labour to produce two commodities, motorcycles and bread, where the production of motorcycles is capital-intensive and bread is labour-intensive at any factor price. Then under the assumption of constant returns to scale and full employment, an increase in the supply of labour at constant commodity prices will lead to A. An absolute increase in the production of motorcycles

B. An absolute increase in the production of bread

C. An absolute decrease in the production of motorcycles

D. An absolute decrease in the production of bread

In light of the above statements, choose the most appropriate answer from the options given below

A. Statements A and B only

B. Statements A and D only

C. Statements B and C only

D. None of the above

Question 68

In Country X, cigarettes are forbidden, so people trade cigarettes in a black market. The cigarette demand is $Q_D = 12 - P$, and the cigarette supply is $Q_s = 2P$, where P is price.

The government becomes aware of the black market and reinforces the police so that half of the cigarette supply would be seized and destroyed. How does the consumer surplus change between the two situations?

A. remains the same

B. decreases by 10

C. decreases by 14

D. none of the above

Question 69

In the Heckscher Ohlin model, free trade in goods will lead to

A. increase in wage rate in the labour abundant country

B. increase in wage rate in the capital abundant country

C. decrease in wage rate in the labour abundant country

D. decrease in rental in the capital abundant country

Choose the correct answer from the options given below:

A. A only

B. B only

C. A and B only

D. C and D only

Question 70

Consider a world with two factors of production, namely capital and labour, and where countries engage in free trade as per the Heckscher Ohlin framework. If a capital-abundant small country imposes an import tariff of 20% then we would expect its:

A. Wage will increase

B. Rental will increase

C. Wage will decrease

D. Rental will decrease

In light of the above statements, choose the most appropriate answer from the options given below

A. Statements A and B are true

B. Statements C and D are true

C. Statements A and D are true

D. Statements B and C are true

Question 71

The monopolist faces a demand curve given by $D(p) = 10p^{-3}$. Its cost function is $c(q) = 2q$. What are the optimal level of output and price?

A. $q = 10, p = 2$

B. $q = 10^{-3}, p = 10^{4/3}$

C. $q = 10\text{x}\left(3^{-3}\right), p = 3$

D. $q = 50, p = 2$

Question 72

The derivative of the function $y = \frac{(x-2)^2}{\sqrt{x^2+1}}, x \neq 2$ is

A. $\left(\frac{2}{x-2} - \frac{x}{\sqrt{x^2+1}}\right) y$

B. $\left(\frac{1}{x-2} - \frac{1}{\sqrt{x^2+1}}\right) y$

C. $\left(\frac{2}{x-2} - \frac{x}{x^2+1}\right) y$

D. $\left(\frac{2}{x-2} - \frac{1}{\sqrt{x^2+1}}\right) y$

Question 73

Consider the following regression equation: $y_i = \alpha + \beta_1 x_{1i} + \beta_2 x_{2i} + \beta_3 x_{3i} + u_i$. What would be the null hypothesis for the standard regression F-test for this equation above?

A. $\beta_1 = 0$ and $\beta_2 = 0$ and $\beta_3 = 0$

B. $\beta_1 = 0$ or $\beta_2 = 0$ or $\beta_3 = 0$

C. $\alpha = 0$ and $\beta_1 = 0$ and $\beta_2 = 0$ and $\beta_3 = 0$

D. $\alpha = 0$ or $\beta_1 = 0$ or $\beta_2 = 0$ or $\beta_3 = 0$

Question 74

The mean and variance of a binomial variable are 4 and 4/3 respectively. What are the parameters of the distribution?

A. $n = 6, p = 1/3$

B. $n = 6, p = 2/3$

C. $n = 2, p = 3/5$

D. $n = 2, p = 2/4$

Question 75

The domestic demand and supply of computer chips for a small country are given as $Q_D = 14 - 2P$

$Q_s = -2 + 2P$

Initially the small country engages in free trade at the international price of 1 unit, but now the government imposes an import quota of 8 computer chips, then

A. Domestic price will remain unchanged

B. Domestic price will double

C. Domestic price will triple

D. Domestic price will decline

Question 76

Read the problem below

A family owns a plot of land and two people are needed to work on each acre of land.

Each acre produces an output of Rs.6000 and each member of the family can choose to either work on the land or work elsewhere for an annual wage rate of Rs.1500. If land is leased out then labour working on it must be paid Rs.2000.

How much rent per acre can the family earn annually if the land is leased out ?

A. 1500

B. 7000

C. 3000

D. 2000

Question 77

Read the problem below

A family owns a plot of land and two people are needed to work on each acre of land. Each acre produces an output of Rs.6000 and each member of the family can choose to either work on the land or work elsewhere for an annual wage rate of Rs.1500. If land is leased out then labour working on it must be paid Rs.2000.

If the family has eight people then what is the minimum number of acres of land needed for it to be optimal to lease out?

A. 2

B. 4

C. 5

D. 3

Question 78

Simultaneous causality

A. means that the independent variables in a regression model are correlated with each other

B. leads to correlation between the regressor and the error term

C. means that a third variable affects both Y and X

D. cannot be established since regression analysis only detects correlation between variables

Question 79

Negative residual autocorrelation is indicated by which one of the following?

A. A cyclical pattern in residuals

B. An alternating pattern in residuals

C. A complete randomness in the residuals

D. Residuals are close to zero

Question 80

Suppose we have $\begin{bmatrix} 3 & 2 \\ 1 & 0 \end{bmatrix} \begin{bmatrix} dz \\ dy \end{bmatrix} = \begin{bmatrix} 2 \\ 1 \end{bmatrix} dx$

Then dz/dx is

A. 1

B. 2

C. 0

D. 3

Question 81

The infinite series

$$\sum^{\infty} \frac{n}{n^3+5}$$

A. Converges by the nth term divergence test

B. Diverges by the comparison test

C. Converges by the comparison test

D. Diverges by the ratio test

Question 82

According to the classical quantity theory of money, the LM curve

A. Must be horizontal

B. Must be vertical

C. Must be upward sloping

D. Must be downward sloping

Question 83

Which of the following are advantages of greater exchange rate flexibility? A. The alleviation of potential conflicts that arise between the internal balance and the external balance. B. A more stable environment for growth in world trade and international investment. C. A recession abroad would not have contractionary effects on the domestic economy. Choose the correct answer from the options given below:

A. A only

B. A and B only

C. B only

D. A and C only

Question 84

A monopolist sells the same product in two geographically separated markets, at price $\mathbf{P}_1$ in market **1** and at price $\mathbf{P_2}$ in market **2**. It is known that $\mathbf{P_1 = 2P_2}$. Denote the price elasticities of demand for the product in market 1 and market 2 by e_1 and e_2 respectively. Note that the common marginal cost of manufacturing the good is positive. Then which of the following could be true?

A. $e_1 = 1/2, e_2 = 1/2$

B. $e_1 = 3/2, e_2 = 3$

C. $e_1 = 3, e_2 = 5$

D. $e_1 = 1, e_2 = 1$

Question 85

A singular matrix

A. Must have a positive trace

B. Is invertible

C. Has a determinant equal to zero

D. Must be equal to its transpose

Question 86

A reduction in the number of low-cost student loans should reduce the number of people going for college education because

A. the direct cost of college are higher

B. the foregone cost of college are higher

C. the monetary benefits of attending college are reduced

D. all of the above

Question 87

Consider the following equation and determine the class of model that it best represents $Y_{it} = \beta_0 + \beta_1 x_{it} + \varepsilon_i + u_{it}$

A. A fixed effects model

B. A time fixed effects model

C. A random effects model

D. A pure time series model

Question 88

Consider the following system of 2 differential equations:

$\dot{x} = 2x - 3xy$

$\dot{y} = xy^2 + y$

Then,

A. The only possible steady state is $(x = 0, y = 0)$.

B. The two possible steady states are $(x = 0, y = 0)$ and $(x = 2/3, y = -2/3)$.

C. The two possible steady states are $(x = 0, y = 0)$ and $(x = -3/2, y = 2/3)$

D. The only possible steady state is $(x = 3/2, y = 3/2)$.

Question 89

If an estimator is said to be consistent, it is implied that

A. On average, the estimated coefficient values will equal the true values

B. The OLS estimator is unbiased and no other unbiased estimator has a smaller variance

C. The estimates will converge upon the true values as the sample size increases

D. The coefficient estimates will be as close to their true values as possible for small |and large samples.

Question 90

Suppose $AB = \begin{bmatrix} 5 & 4 \\ -2 & 3 \end{bmatrix}$ and $B = \begin{bmatrix} 7 & 3 \\ 2 & 1 \end{bmatrix}$. Then find A

A. $\begin{bmatrix} 1 & -3 \\ -2 & 7 \end{bmatrix}$

B. $\begin{bmatrix} 11 & -17 \\ -27 & 41 \end{bmatrix}$

C. $\begin{bmatrix} 11 & -5 \\ -24 & 13 \end{bmatrix}$

D. $\begin{bmatrix} -3 & 13 \\ -8 & 27 \end{bmatrix}$

Question 91

$\lim_{x \to 0} \frac{e^x - 1}{x}$ is

A. 0

B. e - 1

C. ∞

D. 1

Question 92

The demand for labor will be more elastic when

A. Labor and capital are highly substitutable and product demand is elastic

B. Labor and capital are highly substitutable and product demand is inelastic

C. Labor and capital are not easily substitutable and product demand is elastic

D. Labor and capital are not easily substitutable and product demand is inelastic

Question 93

Which of the following circumstances will increase the likelihood of an individual being a nonparticipant in the labor market?

A. High earnings capacity in the labor market

B. The absence of non-wage income

C. A potential market wage that exceeds the individual's reservation wage

D. Availability of substantial non-wage income

Question 94

Suppose there is a negative AD shock and no shock to AS. It is known that as a result, the economy has fallen into a recession, and output has decreased. Then which of the following alone MUST be true?

A. The AS curve is horizontal

B. The AS curve is upward sloping

C. The AS curve is vertical

D. Prices are not bearing the full impact of the AD shock.

Question 95

If the nth partial sum of the series $\sum_{i=1}^{\infty} a_n$ is $S_n = \frac{2n^2+2}{3n^2+1}$ then $\sum_{i=1}^{\infty} a_n =$

A. 0

B. $\frac{2}{3}$

C. diverges

D. 2

Question 96

The Phillips curve

A. Shows a negative relationship between output and unemployment

B. Shows a negative relationship between output and inflation

C. Shows a negative relationship between unemployment and inflation

D. Must be horizontal

Question 97

Consider a Cournot oligopoly with n firms, and (inverse) demand function

$P = 200 - \sum_{i=1}^{n} q_i$ where P represents the market price and q_i is firm i's output. Let the MC

(marginal cost) be 40 . Then the overall industry output lies in the interval

A. [80, 160]

B. [40, 200]

C. [80, 100]

D. [70, 160]

Question 98

In which of the following cases do we get L-shaped indifference curves?

A. Perfect substitutes

B. Perfect complements

C. Lexicographic preferences

D. When one good becomes a "bad"

Question 99

Consider two different economies, (i) a closed Keynesian liquidity trap economy, and (ii) an open economy with perfect capital mobility and a fixed exchange rate. Then expansionary monetary policy

A. Is effective in (i) but not (ii)

B. Is ineffective in both

C. Is effective in both

D. Is effective in (ii) but not (i)

Question 100

When the average difference of earnings between college graduates and high school graduates is used to estimate the "return" to a college degree, an economist would argue that the estimated return would be:

A. Biased downward if more able workers are more likely to go to college.

B. Biased downward if earnings differences don't account for the fact that college graduates generally have more generous fringe benefit packages than high school graduates.

C. Biased upward if the jobs that high school graduates accept typically have less desirable non-pecuniary features than the jobs that college graduates accept.

D. Both options (2) and (3) above

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Question 1

The function $f(x) = \log_{10} x$ is continuous over the interval

A. $(-a, a)$ where $a > 0$

B. $(-\infty, +\infty)$

C. $[-a, a \mid$ where $a > 0$

D. $(0, 1)$

Question 2

Satish is very conscious about the food he eats. He only eats rotis and dal; a cup of dal costs $P2$, while each roti costs a rupee; and Satish decides to spend only $F13$ per day on food. He also decides to consume exactly 5500 calories a day; he has been told that each roti has 1000 calories while each cup of dal has 500 calories. He spends the entire money he has allocated to food. Then he consumes

A. 3 rotis and 5 cups of dal

B. no more than 2 rotis per day

C. no more than 4 cups of dal per day

D. 3 rotis and 4 cups of dal per day

Question 3

Let X and Y be random variables with $V[X] = 2, V[Y] = 4$ and $\text{cov}(X, Y) = 2$. Let $W = 2X + 3Y$. The $V[W$ is

A. 68

B. 44

C. 48

D. 16

Question 4

Given the following data for an economy : Gross domestic product at market prices 20,000 Gross domestic capital formation 5,000 Depreciation $4,000$ Net exports $(-)2,000$ Net factor incomes from abroad $5,000$ The economy's net domestic capital formation is

A. 1,000

B. 5,000

C. 3,000

D. $(-)1,000$

Question 5

The incidence of sales tax falls

A. on only consumers if demand is completely elastic

B. on only retailers if demand is completely elastic

C. on only retailers if demand is completely inelastic

D. always on both consumers and retailers

Question 6

When an economist refers to the long run, she is referring to

A. a length of time no shorter than 2 years

B. a length of time no shorter than 1 month

C. approximately the length of time such that all inputs remain fixed

D. approximately the length of time such that all inputs are variable

Question 7

Which of the following is indicative of an inverse relationship between X and Y ?

A. A scatter plot whose points are shaped like a circle

B. A scatter plot with points mostly in the lower left and upper right quadrants

C. A negative correlation coefficient

D. A negative P-value for the correlation coefficient

Question 8

Which of the following is not correct regarding the estimated slope of the regression line?

A. It is divided by its standard error to obtain its t -statistic

B. It shows the change in Y for a unit change in X

C. It is chosen so as to minimize the sum of squared errors

D. It may effectively be regarded as zero if its P -value is below 0.01

Question 9

Among twenty-five articles, nine are defective, six have only minor defects and three have major defects. The probability that, if a selected article is defective, then the defect is major is

A. 1/3

B. 0.25

C. 0.24

D. 0.08

Answer Question Nos. 10 – 15 on the basis of the following information : An exclusive club is trying very hard to pick its members from the social elite. An exact election mechanism has been agreed upon that will ensure the entrance of only the most suave members from the group A, B, C, D, E, F, G and H. Being in'or 'out' of the club is determined by the following rules : If A is in, then G is out. If H is out, then B is in. If D is out, then E is out. If H is in, then C is in. If B is out, then G and D are out.

Question 10

Which of the following is a complete group of people who could be in?

A. A, F, G

B. F, G, H, C, E, D

C. E, D, H, C, B

D. B, F, G, D, A

Question 11

If B is out, then who must be in?

A. A

B. C

C. D

D. E

Question 12

If E and G are in the club, then what other two people must also be in the club?

A. B, A

B. G, H

C. H, D

D. D, B

Question 13

If B and D are out of the club, then which of the following must be true?

A. At least two people are in the club

B. At least three people are in the club

C. At most four people are out of the club

D. Exactly three people are out of the club

Question 14

If seven people are in the club, then who could be out?

A. A

B. B

C. E

D. C

Question 15

Who could be the only person in the club?

A. A

B. B

C. C

D. F

Answer Question Nos. 16-21 on the basis of the following information : A number of species faced extinction during the Mesozoic era. Species R, S, T, U, V, W and X were species that all became extinct during this era and scientists have determined that their extinction occurred based on the following constraints : W became extinct before X. U became extinct after T. S became extinct before T. X became extinct before U. V became extinct after U S became extinct before W R became extinct before S.

Question 16

Which of the follwoing species were the last two to go extinct?

A. X, V

B. T, U

C. X, U

D. U, V

Question 17

Which of the following species could have been the fourth one to go extinct?

A. S

B. V

C. W

D. R

Question 18

Which is the smallest number of species that could have gone extinct before T ?

A. Two

B. Three

C. Four

D. Five

Question 19

Which of the following must be true if X went extinct after T ?

A. Three species went extinct before T

B. Three species went extinct after T

C. Four species went extinct before T

D. At least three species went extinct after T

Question 20

How many possible orders are there for the species' extinction pattern?

A. One

B. Two

C. Three

D. Four

Question 21

If the constraints were changed and X were not required to become extinct before U, then which of the following is a possible order for the species' extinction?

A. W, R, S, T, U, X, V

B. R, S, X, W, T, U, V

C. R, X, S, W, T, U, V

D. R, S, T, U, V, W, X

Question 22

Between 1750 and 1900, India's share in world manufacturing output

A. increased from 2 percent to 15 percent

B. increased from 7 percent to 25 percent

C. fell from 25 percent to 2 percent

D. stayed at around 15 percent

Question 23

Between 1990 – 91 and 2000 – 01, the Tax /GDP ratio of the Central Government of India

A. increased from around 8 percent to around 15 percent

B. increased from around 9 percent to around 11 percent

C. decreased from around 11 percent to around 9 percent

D. decreased from around 15 percent to around 8 percent

Question 24

Which of the following is used to determine the value added in agriculture in India?

A. Input-output approach

B. Weather predictions

C. Crop cutting experiments

D. Cost surveys of the Ministry of Agriculture

Question 25

Take India's GDP in 2009 – 10 at 50, 00, 000 crore. Indians working abroad remit to the country 150 crore and foreigners working in India remit 100 crore out of the country. Foreign investors repatriate 50 crore and Indian business abroad brings in ? 10 crore. Then India's GNP in 2009 – 10 would have been

A. 50, 00, 050 crore

B. 49, 99, 950 crore

C. 50, 00, 090 crore

D. 49, 99, 910 crore

Question 26

National accounts of a country show the following :

Net factor income from abroad	10
Income from private domestic industries	780
Income from governmental industries	100
Personal consumption expenditures	500
Government purchases	250
Exports	40
Imports	60
Depreciation	30

Then the net domestic product is

A. 890

B. 880

C. 910

D. 660

Question 27

The real rate of interest is normally calculated by

A. dividing the nominal interest rate by the price level

B. subtracting the rate of inflation from the nominal interest rate

C. dividing the rate of interest by the rate of inflation

D. None of the above as it is set by the central bank

Answer Question Nos. 28 – 30 on the basis of the following information : Consider an economy in which the consumption function is given by $C = 400 + 0 \cdot 6(Y - T)$. Investment ($I$) is 120, government purchases (G) and taxes (T) are both 100.

Question 28

The equilibrium level of income is

A. 1000

B. 1200

C. 1300

D. 1400

Question 29

If government purchases increase to 240 , the new equilibrium level of income would be

A. 1700

B. 1200

C. 1400

D. 1600

Question 30

The government expenditure multiplier is

A. $2 \cdot 5$

B. $3 \cdot 5$

C. $4 \cdot 5$

D. 1

Question 31

Market capitalization in the Bombay Stock Exchange (BSE) rose by 100 percent in a single year. This means that

A. the Sensex rose by 100 percent during that year

B. the value of shares traded at the BSE over the year increased by 100 percent when compared with the previous year

C. the value of all outstanding shares of companies listed at the BSE rose by 100 percent

D. the prices of every share listed at the BSE rose by 100 percent

Question 32

If an individual deposits a sum of money in a bank, then the amount of additional credit that the banking system can create is

A. a fraction of that sum defined by the cash reserve ratio

B. a fraction of that sum defined by the statutory liquidity ratio

C. a multiple of that sum defined by the cash reserve ratio

D. a multiple of that sum defined by the statutory liquidity ratio

Question 33

Fuel and power have a weight of 15 percent in India's official wholesale price index. If there is a 20 percent increase in the price index for the fuel and power subgroup, then contribution this would make to inflation measured by the WPI would be

A. exactly 3 percentage points

B. less than 3 percentage points

C. more than 3 percentage points

D. more than 10 percentage points

Question 34

The Bombay Stock Exchange Sensitive Index or Sensex is

A. a simple average of the stock prices of the top 500 companies by market capitalization

B. a weighted average of the stock prices of the 500 most actively traded shares

C. a weighted average of the stock prices of the 50 most actively traded shares

D. a weighted average of the stock prices of a changing set of 30 actively traded stocks

Question 35

Which of the following indicators is not included in computing the human development indices calculated by the UNDP?

A. Life expectancy at birth

B. Adult literacy rate

C. Combined primary, secondary and tertiary enrolment

D. Headcount poverty ratio

Question 36

An increase in the international reserves of an economy indicates that

A. ex ante savings are higher than ex ante investment

B. ex ante savings are lower than ex ante investment

C. ex ante savings are equal to ex ante investment

D. Nothing can be said about ex ante savings or ex ante investment

Question 37

Stagflation describes a situation of

A. rising prices and rising output

B. rising prices and falling or stagnant output

C. falling or stagnant prices and rising output

D. falling or stagnant prices and falling or stagnant output

Question 38

For the countries in the European Union that share a common currency, the euro, which of the following is correct?

A. It is impossible to have different real exchange rates from one another

B. It is possible to have real exchange rates that are different from one another

C. The nominal and real exchange rates will always vary according to capital flows

D. The concept of real exchange rate is not relevant

Question 39

In recent years, the bottom 20 percent of the world's population are estimated to receive global income

A. less than 1 percent

B. around 3 percent

C. around 5 percent

D. around 10 percent

Question 40

If an economy is a price taker in world markets for both export and import, the real exchange rate devaluation

A. will have no effect on the balance of trade

B. will cause the balance of trade to improve

C. will cause the balance of trade to deteriorate

D. will turn a trade deficit into a balance

Question 41

The 'Gold Standard' refers to an international currency regime under which

A. only gold was used in international transactions

B. only gold was used as money in domestic transactions

C. countries officially linked their money supply to a specific value of gold

D. countries officially linked the value of their money to a specific weight of gold

Question 42

Currently, State Governments receive approximately which of the following shares of the Central Government's gross tax collection?

A. 22 percent

B. 25 percent

C. 32 percent

D. 40 percent

Question 43

Consider the following statements about a two-person simultaneous-move game in which each person has two pure strategies : (i) If the game has a unique Nash equilibrium which is Pareto-dominated by some other strategy profile, then it is a prisoner's dilemma game. (ii) If the game is a prisoner's dilemma game, then it has a unique Nash equilibrium which is Pareto-dominated by some other strategy profile. Which of the following is true?

A. (i) is true but (ii) is false

B. (i) is false but (ii) is true

C. Both (i) and (ii) are true

D. Both (i) and (ii) are false

Question 44

The intersection of three distinct planes in the three-dimensional space is

A. a point

B. a straight line

C. a point or a straight line

D. neither a point nor a straight line

Question 45

The sampling distribution refers to

A. the distribution of various sample sizes which might be used in a given study

B. the distribution of different possible values of a statistic together with their respective probabilities of occurrence

C. the distribution of the values of the items in the population

D. the distribution of the values of the items actually selected in a given sample

Answer Question Nos. 46 – 48 on the basis of the following information : A student has taken 5 courses-Philosophy, Biology, Economics, Mathematics and Literature. She studies for these courses according to the following pattern: Every week the student studies for exactly three courses. If she studies Biology in a week, then she also studies Philosophy that week. If she studies Economics in a particular week, then she does not study it in the following week. In any particular week she studies not more than one of the subjects studied in the preceding week.

Question 46

Which of the following is a possible sequence of combinations for the student in the two successive weeks?

A. Week-1 : Philosophy, Biology and Economics Week-2 : Biology, Mathematics and Literature

B. Week- - 1: Philosophy, Biology and Mathematics Week-2 : Philosophy, Biology and Literature

C. Week-1 : Philosophy, Mathematics and Literature Week-2 : Philosophy, Biology and Economics

D. Week-1 : Biology, Mathematics and Literature Week-2 : Philosophy, Economics and Mathematics

Question 47

If the student studies Philosophy, Biology and Economics in the first week, which of the following combinations must be studied in the third week?

A. Philosophy, Biology and Economics

B. Philosophy, Biology and Mathematics

C. Philosophy, Economics and Mathematics

D. Economics, Mathematics and Literature

Question 48

If the student studies Philosophy, Literature and Mathematics in the first week, which of the following combinations must be studied in the eleventh week?

A. Philosophy, Literature and Mathematics

B. Philosophy, Biology and Mathematics

C. Philosophy, Economics and Mathematics

D. Economics, Mathematics and Literature

Question 49

The rate of interest is

A. a flow variable

B. a stock variable

C. the ratio of a flow variable to a stock variable

D. the ratio of a stock variable to a flow variable

Question 50

The fiscal deficit is

A. a flow variable

B. a stock variable

C. the ratio of a flow variable to a stock variable

D. the ratio of a stock variable to a flow variable

Question 51

Suppose interest is compounded half-yearly at the rate of 10% per annum. If the present value of an asset, which returns a fixed sum of X after one year and nothing thereafter, is $50,000$, then X is equal to

A. $54,750$

B. $55,000$

C. $55,125$

D. $55,250$

Question 52

Which of the following statements must be incorrect to describe a set of properties for the probability distribution of a random variable X ?

A. $E(X) = 0$

B. Standard Deviation $(X) = -1$

C. Variance $(X) = 1$

D. The distribution of X is not symmetric about $E(X)$

Question 53

Suppose two trials of a random experiment, in which a fair coin is tossed and a fair die is rolled simultaneously, are carried out under the same conditions. What is the probability that the outcome the coin shows a head and the die shows a number divisible by 3 ' is observed in at least one trial?

A. 9/144

B. 44/144

C. 60/144

D. 80/144

Answer Question Nos. 54 – 57 on the basis of the following information : Suppose, in equilibrium, aggregate income (in units of money per year) in an economy $Y = C + I$, where investment expenditure (in units of money per year) $I = 1000$ and aggregate consumption expenditure (in units of money per year) C satisfies the following conditions : (i) C is a function of current disposable income in the economy (Y_d). (ii) If $Y_d = 0$, then $C = 500$. (iii) Marginal propensity to save out of Y_d is constant in the economy and equal to 30%. Suppose the government collects direct tax revenues equal to 15% of Y and makes direct transfer payments equal to 750 units of money per year.

Question 54

What is the value of the investment multiplier in the economy?

A. Between $1 \cdot 7$ and $1 \cdot 9$

B. Between $1 \cdot 9$ and $2 \cdot 1$

C. Between $2 \cdot 1$ and $2 \cdot 3$

D. Between $2 \cdot 3$ and $2 \cdot 5$

Question 55

What is the equilibrium value of Y in the economy?

A. Between 3250 and 3750

B. Between 3750 and 4250

C. Between 4250 and 4750

D. Between 4750 and 5250

Question 56

If instead of 750 units of money the government makes annual transfer payments equal to 10% of Y, then the value of the investment multiplier will

A. decrease by less than unity

B. decrease by more than unity

C. increase by less than unity

D. increase by more than unity

Question 57

If instead of 750 units of money the government makes annual transfer payments equal to 10% of Y, then the equilibrium value of Y will

A. decrease by less than 1000

B. decrease by more than 1000

C. increase by less than 1000

D. increase by more than 1000

Question 58

Consider two economies (1 and 2) where in equilibrium, the level of aggregate income (Y) is the sum of aggregate investment expenditure (I) and aggregate consumption expenditure (C). I is determined autonomously of Y and its value in economy 1 is double that in economy 2 . If the marginal propensity to save in economy 1 is half that in economy 2 for all values of Y, then the equilibrium value of $Y - C$ in economy 1 is

A. double that in economy 2

B. half that in economy 2

C. the same as that in economy 2

D. None of the above

Question 59

An indirect utility function

A. is defined over income and prices

B. assumes profit maximization

C. is homogenous of degree one

D. satisfies all of the above

Question 60

The GDP of a country is growing at 5%, its population growth is 2% and its income elasticity for food is 0.5. We can expect food demand to grow at

A. $2 \cdot 0$ percent

B. 2.5 percent

C. 3.5 percent

D. $5 \cdot 0$ percent

Question 61

If A is sufficient for B to occur and C is necessary for B to occur.

A. from occurrence of B we can conclude that A has occurred

B. from occurrence of B we can conclude that C has occurred

C. from occurrence of C we can conclude that A has occurred

D. from occurrence of C we can conclude that B has occurred

Question 62

Which of the following institutions in India is not a constitutional body?

A. The National Finance Commission

B. State Finance Commissions

C. The National Planning Commission

D. District Planning Committees

Question 63

Which of the following conditions is not necessary for ordinary least squares to be the best unbiased linear estimator (BLUE)?

A. All errors are normally distributed

B. All errors are independent and uncorrelated to each other

C. All errors have expectation zero

D. All errors have the same variance

Answer Question Nos. 64 – 66 on the basis of the following information : "While capital is the most important condition or prerequisite of high efficiency production, one cannot explain differences in the wealth of nations in terms of differences in 'capital endowment' of different countries, in the same manner as one can explain differences in population density by reference to differing endowments of natural resources, such as climate, rainfall; geology, etc. For in contrast to natural resources which exist independently of human activities, 'capital endowment' is necessarily the result of such activities. It is impossible therefore to separate cause and effect; it is just as sensible-indeed more enlightening-to say that capital accumulation has resulted from industrial development than that it was the cause of such development. For taking manufacturing activities as a whole, the growth of output and the accumulation of capital are merely different aspects of a single process." (Nicholas Kaldor, Capitalism and Industrial Development, 1972)

Question 64

According to Kaldor, differing endowments of natural resources

A. explain differences in capital accumulation

B. result from industrial development

C. can help to explain differences in population density

D. can be the result of human activities

Question 65

'Capital endowment' cannot explain the differences in the wealth of nations, because

A. these are more determined by natural resource endowment

B. capital is the most important condition or prerequisite of high efficiency production

C. capital cannot be the cause of industrial development

D. industrial development may change 'capital endowment'

Question 66

Kaldor argues that climate, rainfall, geology, etc.

A. have a strong relationship with patterns of industrial development

B. are determinants of economic growth

C. exist independently of human activities

D. can explain the differences in the wealth of nations

Answer Question Nos. 67 and 68 on the basis of the following information : According to the Constitution of India, "Where any law makes any provision for the acquisition by the State of any estate or where any land comprised therein is held by a person under his personal cultivation, it shall not be lawful for the State to acquire any portion of such land as is within the ceiling limit applicable to him under any law for the time being in force or any building or structure standing thereof, unless the law relating to the acquisition of such land, building or structure, provides for payment of compensation at a rate which shall not be less than the market value thereof." [Article 31 A(e)]

Question 67

On this basis, which of the following statements is correct?

A. The State must pay full market value for all land acquired from a cultivator

B. Only land without buildings and structures can be acquired by the State

C. Only a person cultivating the land personally is eligible for compensation

D. Land above designated ceiling limits can be acquired by the State without compensating for its market value

Question 68

On this basis, which of the following statements is not correct?

A. Laws relating to land acquisition by the State must provide for some compensation

B. Landlords with tenant cultivators on the acquired land must share some of the compensation with their tenants

C. Acquisition laws apply to land and to built structures on land

D. Even without a law relating to land acquisition, States can acquire land

Question 69

In 1990 – 91, the price index of agricultural commodities was 200 and that of manufactured products 150. In a year's time both the indices increased by 15 (i.e., the price index of agricultural commodities became 215 and that of manufactured products 165). Consequently, the terms of trade between agriculture and industry

A. moved in favour of agriculture

B. moved in favour of industry

C. remained unchanged

D. None of the above

Question 70

Populations of two species A and B at time 0 are equal. If the instantaneous rates of growth of populations of species A and B are u and $u + 1$ respectively, $u > 0$; then at time 1 the population of species B would be

A. twice the population of species A

B. $\log 10$ times of the population of species A

C. e^u times the population of species A

D. e times the population of species A

Question 71

Suppose the demand for good Z goes up when the price of good Y goes down. We can say that goods Z and Y are

A. complements

B. perfect substitutes

C. unrelated goods

D. substitutes

Question 72

If the quantity demanded of rice increases by 5% when the price of wheat increases by 20%, the cross-price elasticity of demand is

A. -4

B. -0.25

C. 0.25

D. 4

Question 73

Which of the following does monopolistic competition have in common with perfect competition?

A. A large number of firms and freedom of entry and exit

B. A standardized product

C. Product differentiation

D. The ability to earn an economic profit in the long run

Question 74

Which of the following does monopolistic competition have in common with monopoly?

A. A large number of firms

B. A downward-sloping demand curve

C. The ability to collude with respect to price

D. None of the above

Question 75

The market demand function for a commodity is given as $D(p) = 1/p$; where p is the price of the commodity. Which of the following statements about the market demand curve is correct?

A. The price elasticity of demand for this commodity is different at different points on the demand curve and it varies from 0 to 1

B. The price elasticity of demand for this commodity is different at different points on the demand curve and it varies from 0 to ∞

C. The price elasticity of demand for this commodity is equal to 1 at any point on the demand curve

D. None of the above

Question 76

Let a be strictly negative real number and let b be a strictly positive real number. Which of the following is true? [Note that $|x|$ stands for the absolute value of x]

A. $|a| < b$ if and only if $-b < a < b$

B. $|a| < b$ if and only if $-b > a > b$

C. $|a| < b$ if and only if $-b > a$

D. None of the above

Question 77

Let $|x|$ stands for the absolute value of x. Then the function $f(x) = |x|$ is

A. differentiable everywhere including the point '0'

B. differentiable everywhere excluding the point "

C. differentiable everywhere excluding the points 0',' 1' and $t - 1'$

D. None of the above

Question 78

If you integrate $1/x$ over the interval $[1, y]$, where $y > 1$, you get

A. $\log y$ (which is the natural logarithm of y)

B. $\log(y + 1)$ (which is the natural logarithm of $y + 1$)

C. e^y

D. None of the above

Question 79

For events A and B (i) the probability of event A is p (ii) the probability of event B is q (iii) the probability of event AB is r Which of the following is true?

A. Probability either A or B or both = $p + q$

B. Probability either A or B but not both = $p + q - r$

C. Probability either A or B but not both = $p + q - 2r$

D. None of the above

Question 80

Which of the following sets is empty?

A. $\{x$ is a real number $\mid x = x\}$

B. $\{x$ is a real number $\mid x \neq x\}$

C. $\{x \text{ is a real number} \mid x = x^2\}$

D. $\{x \text{ is a real number} \mid x \neq x^2\}$

Question 81

Let set A contains m elements and set B contains n elements. Then the number of distinct functions from set A to set B which can be constructed is

A. m^n

B. n^m

C. $m + n$

D. mn

Question 82

In an election, half the electors voted for candidate A and two-thirds voted for candidate B. 10 electors voted for both A and B.6 electors voted for neither A nor B. How many electors were there?

A. 18

B. 24

C. 36

D. None of the above

Question 83

A theorem states that if P then Q'. From empirical observations it is known that P is false. Therefore it can be inferred that

A. Q is false

B. Q is true

C. the theorem if P then Q' is false

D. None of the above

Question 84

Following are given : (i) All P are Q. (ii) No Q is R. From (i) and (ii) we can infer that

A. some P are R

B. no P is R

C. all P are R

D. None of the above

Question 85

Following are given : (i) Some P are Q. (ii) No R is Q. From (i) and (ii) we can infer that

A. some P are R

B. no P is R

C. all P are R

D. None of the above

Question 86

A country that has a trade deficit experiences a nominal exchange rate depreciation. As a result

A. the trade deficit will necessarily decline

B. the trade deficit will necessarily increase

C. the exchange rate depreciation will cause domestic inflation; so there will be no impact on the trade deficit

D. Nothing can be said about the trade deficit without more information

Question 87

Economic activities cover

A. only activities that result in products that are exchanged in markets

B. only activities that people engage in for profit

C. only activities that are or can potentially be delegated to someone else

D. only activities that are entered into the national accounts

Question 88

In the WTO's Agreement on Agriculture, 'Blue Box' subsidies refer to

A. measures to subsidise agricultural exports

B. measures to provide income support to farmers

C. measures to incentivise farmers to make their cultivation more environment-friendly

D. measures to protect certain crops

Question 89

A monopoly producing a chip at a marginal cost of $F6$ per unit faces a demand elasticity of -2.5. Which price should it charge to optimize its profits?

A. $F6$ per unit

B. $F8$ per unit

C. $F10$ per unit

D. $F12$ per unit

Question 90

$X_1, \ldots, X_N$ are independent and identically distributed random variables. Assume that X_i is normally distributed with mean 1 and variance 1. Let $a_1, \ldots, a_N$ be real numbers. Construct the random variable Z as follows :

$$Z = \sum_{i=1}^{N} a_i \times X_i^2$$

Which of the following is true?

A. The expected value of Z is $\sum_{i=1}^{N} a_i$

B. The expected value of Z is $\sum_{i=1}^{N} a_i^2$

C. The expected value of Z is $2 \times \sum_{i=1}^{N} a_i$

D. None of the above

Question 91

The value-added tax is

A. a direct tax

B. an indirect tax

C. a partly direct and partly indirect tax

D. a new type of tax, neither direct nor indirect

Question 92

The current investment rate in India is

A. about 20 percent

B. about 30 percent

C. about 40 percent

D. about 50 percent

Question 93

A village has 400 hectares of land of which 200 hectares is sown only once in a year, 75 hectares is sown with two crops a year, 50 hectares is sown with three crops a year and 75 hectares is left fallow. What is the gross cropped area of the village?

A. 200 hectares

B. 300 hectares

C. 400 hectares

D. 500 hectares

Question 94

The Right to Education Act, 2009 covers all children

A. up to 11 years of age

B. up to 14 years of age

C. in the age-group of 6 to 14 years of age

D. in the age-group of 6 to 16 years of age

Answer Question Nos. 95 – 100 on the basis of the following information : There are two experts, X_1 and X_2, employed by the Planning Commission of Hubble Bubble to calculate the annual rate of growth of output in the country. Given that $Y(t)$ denotes output in year t and $Y(t-1)$ denotes output in the previous year $(t-1)$, X_1 calculates the rate of growth in year t using the formula $[Y(t) - Y(t-1)]/Y(t)$ and X_2 calculates it using the formula $[Y(t) - Y(t-1)]/Y(t-1)$.

Question 95

Suppose Hubble Bubble's output in 2012 was greater than its output in 2011. Which expert calculated a higher rate of growth for 2012?

A. X_1

B. X_2

C. Both X_1 and X_2 calculated the same value for the rate of growth

D. Cannot be answered on the basis of the information provided

Question 96

Suppose Hubble Bubble's output in 2012 was less than its output in 2011 . Which expert calculated a higher rate of growth for 2012?

A. X_1

B. X_2

C. Both X_1 and X_2 calculated the same value for the rate of growth

D. Cannot be answered on the basis of the information provided

Question 97

Suppose X_2 's calculations show that the rate of growth in 2012 was 5%. Which of the following numbers is the closest to X_1 's calculated value for the rate of growth in 2012?

A. 4.76

B. 4.79

C. 5.21

D. 5.26

Question 98

Suppose X_1 's calculations show that the rate of growth in 2012 was 5%. Which of the following numbers is the closest to X_2 's calculated value for the rate of growth in 2012?

A. 4.76

B. 4.79

C. 5.21

D. 5.26

Question 99

Suppose X_2 's calculations show that the rate of growth in 2012 was -5%. Which of the following numbers is the closest to X_1 's calculated value for the rate of growth in 2012?

A. -4.76

B. -4.79

C. -5.21

D. $-5 \cdot 26$

Question 100

Suppose X_1 's calculations show that the rate of growth in 2012 was -5%. Which of the following numbers is the closest to X_2 's calculated value for the rate of growth in 2012?

A. $-4 \cdot 76$

B. $-4 \cdot 79$

C. $-5 \cdot 21$

D. -5.26

JNU SSS 2014

Answer Question Nos. 1 – 10 on the basis of the following information

Expenditure on Gross Domestic Product (in 100 billion)				
At Current Prices	2009 – 10	2010 – 11	2011 – 12	2012 – 13
1. Final consumption expenditure	448	525	617	696
1.1 Government final consumption expenditure	77	89	103	119
1.2 Private final consumption expenditure	371	436	514	577
2. Gross fixed capital formation	206	241	286	307
3. Change in stocks	18	27	17	17
4. Valuables	12	16	25	27
5. Exports of goods and services	130	171	215	243
5.1 Export of goods	85	114	147	163
5.2 Export of services	45	57	68	79
6. Import of goods and services	165	205	272	311
6.1 Import of goods	136	168	235	267
6.2 Import of services	28	37	38	44
7. Discrepancies	0	3	14	32
8. Expenditure on gross domestic product	*A*	*B*	*C*	*D*
At Constant 2004-05 Prices	2009 – 10	2010 – 11	2011 – 12	2012 – 13
1. Final consumption expenditure	340	368	400	421
1.1 Government final consumption expenditure	55	58	62	66
1.2 Private final consumption expenditure	285	309	338	355
2. Gross fixed capital formation	159	177	199	200
3. Change in stocks	14	21	12	11
4. Valuables	9	13	13	18
5. Exports of goods and services	100	120	138	145
5.1 Export of goods	66	82	96	100
5.2 Export of services	34	38	42	45
6. Import of goods and services	133	154	187	199
6.1 Import of goods	112	127	163	174
6.2 Import of services	21	27	23	25
7. Discrepancies	−10	−15	−12	−6
8. Expenditure on gross domestic product	479	*X*	*Y*	*Z*

Question 1

D (i.e., expenditure on GDP at current prices in 2012 – 13) is equal to

A. 1011

B. 1568

C. 1633

D. 2883

Question 2

Growth rate during 2012 – 13 has been estimated to be

A. 12 · 25%

B. 10.91%

C. 6.50%

D. 4.74%

Question 3

GDP deflator during 2012 – 13 has been estimated to be

A. 1.6

B. 1 · 7

C. 1.8

D. 1.9

Question 4

As compared to 2010 – 11, the growth rate in 2012 – 13 has come down by

A. 7 · 9 percentage points

B. 5.5 percentage points

C. 3.5 percentage points

D. 1 · 9 percentage points

Question 5

The current account deficit at current price as proportion of GDP during 2012 – 13 has been estimated to be

A. 5 · 34%

B. 6.74%

C. 9.15%

D. 11.55%

Question 6

Investment rate (excluding valuables) at constant prices during 2012 – 13 has been estimated to be

A. 14%

B. 24%

C. 34%

D. 44%

Question 7

Private consumption-GDP ratio at current prices during 2011 – 12 has been estimated to be

A. 50%

B. 57%

C. 65%

D. None of the above

Question 8

By 2012 – 13, in Indian economy, the degree of openness has crossed

A. 50%

B. 60%

C. All of the above

D. None of the above

Question 9

The inflation based on GDP deflator during 2012 – 13 has been estimated to be

A. 10%

B. 9%

C. 8.5%

D. $7 \cdot 2\%$

Question 10

"At current prices, the gross fixed capital formation of the public sector has increased by 23.5% from $6 \cdot 4$ lakh crore in 2011 – 12 to $7 \cdot 9$ lakh crore in 2012 – 13, that of private : corporate sector by 0.8% from 8.5 lakh crore in 2011 – 12 to 8.6 lakh crore in 2012 – 13 and the household sector by 3.9% from 13 : 7 lakh crore in 2011 – 12 to 14.3 lakh crore in 2012 – 13." The government expenditure to GDP ratio in 2012 – 13 would then approximately be

A. 15%

B. 20%

C. 25%

D. 30%

Answer Question Nos. 11 – 15 on the basis of the following passage: "The denial of the crucial role of the interest rate as equilibrator of savings and investment led directly to the Keynesian theory of employment determinants. Given the 'propensity to consume' and hence the proportion of any given income that will be spent by individual consumers (on which the size of R. F. Kahn's :multiplier' depends), the level of output and employment will be a function of investment. According to the level at which investment (also consumption) stands, the level of output and employment may be almost anything between zero and full capacity output. There is at any rate no longer any unique level to which the system is necessarily tending. So far as investment consists of private investment, it will remain governed by the 'marginal efficiency of capital' (anticipated profitability), modified, on the one hand, by 'expectations' (powerfully swayed by 'business mood' and the like) and on the other hand by the cost of borrowing, namely the prevailing rate of interest. Thus was the causal emphasis of theory reversed : instead of any change in saving being translated into an equivalent shift of investment, investment became the independent and (via income changes) the volume of savings the dependent variable. Interest was converted virtually into a money rate-something influenced on the one hand by monetary policy (affecting the supply of money available) and on the other hand by the current attitude towards it as something worth holding (qua .bank deposit e.g.) in preference to other assets (e.g. bonds). This latter constituted the famous 'liquidity preference'-a preference powerfully influenced by expectations (or uncertainty) about future movements of interest rates (and hen ce of bond prices). " - From Maurice Dobb, Thearies of Value and Distribution since Adam Smith, page 218 – 9

Question 11

There is no unique level of output and employment to which the economic system tends, because

A. investment consists only of private investment

B. investment determines the level of output and can vary

C. changes in saving are translated into an equivalent level of investment

D. investment depends upon the propensity to consume

Question 12

The 'multiplier' referred to here relates to

A. the propensity to consume which determines how much consumers spend

B. the change in employment consequent upon a change in output

C. the change in output consequent upon a change in investment

D. the number that equilibrates saving and investment

Question 13

Expectations

A. determine the prevailing rate of interest

B. contribute to liquidity preference

C. govern the cost of borrowing

D. determine the money supply

Question 14

Keynes treated the interest rate as

A. entirely determined by expectations about the future

B. the rate at which current savings and investment are equilibrated

C. reflecting both monetary policy and liquidity preference

D. an indicator of expected profitability

Question 15

Liquidity preference

A. is about holding money relative to other assets

B. is the difference between bond prices and interest rates

C. affects the supply of money

D. is unrelated to any of the above

Question 16

The Malthusian principle of growth of human population argues that

A. population growth is constrained by the rate of growth of food production rate What is the change in India's real exchange rate?

B. human population growth has been restricted by changes in climatic conditions

C. expansion of human population leads to migration to less densely populated areas

D. historically population growth has been constrained by decline in gross fertility rate

Question 17

Suppose that the exchange rate of the Indian rupee appreciates by 10% and, over the same period, inflation in India be 8% and inflation in India's trading partners is 3%. What is the change in India's real exchange rate?

A. 5% appreciation

B. 10% appreciation

C. 15% appreciation

D. 5% depreciation

Question 18

Consider a country A whose citizens working abroad remit to the country in a particular year an amount in local currency units (LCUs) that is 250 LCUs more than what foreigners working in A are remitting to their parent countries. Foreign firms operating in A repatriate profits to their home countries that exceed the profits repatriated to A by its firms operating abroad by 750 LCUs. If GDP in the relevant year is 50,000 LCUs and there are no other cross-border flows of income, the country's GNP would be

A. 50,500 LCUs

B. 49,500 LCUs

C. 49,750 LCUs

D. 50,750 LCUs

Question 19

Which of the following is an example of pure public good?

A. National defence

B. Fire protection

C. Congested highway

D. All of the above

Question 20

The free rider problem is typically known as

A. the reluctance of individuals to contribute voluntarily for the provisioning of the public goods

B. journey without ticket in train

C. watching movie without ticket in cinema hall

D. the reluctance of individuals to contribute voluntarily for the provisioning of the Giffen goods

Question 21

'Club goods' are

A. non-rivalrous and non-excludable

B. rivalrous but non-excludable

C. excludable but non-rivalrous

D. rivalrous. as well as excludable

Question 22

If the quantity demanded of rice increases by 5% when the price of wheat increases by 20%, the cross-price elasticity of demand for rice would be

A. -4

B. -0.25

C. 0.25

D. 4

Question 23

Suppose the demand for good Z goes up when the price of good Y goes down. We can say that goods Z and Y are

A. complements

B. perfect substitutes

C. unrelated goods

D. substitutes

Question 24

In the long run, existing firms exit a perfectly competitive market, when

A. economic profits are zero

B. economic profits are greater than zero

C. normal profits are greater than zero

D. they incur an economic loss

Question 25

Which of the following statements is correct?

A. The compensated demand curve of a commodity is always steeper than the ordinary demand curve of the commodity

B. The ordinary demand curve of a commodity is always steeper than the compensated demand curve of the commodity

C. The compensated demand curve of a commodity always has the same slope as the ordinary demand curve of the commodity

D. None of the above

Question 26

When speaking of the invisible hand', Adam Smith was referring to

A. competition of a kind that would lead an individual pursuing his private interest to serve the public interest

B. competition of a kind that would lead the individual pursuing his private interest to pursue private interest

C. a situation where a person works in the public interest without showing himself

D. None of the above

Question 27

The purchasing power parity exchange rate is determined by

A. the nominal exchange rate

B. the central bank

C. the relative price levels of the two countries

D. foreign exchange markets

Question 28

Over the financiall year 2013-14, India's foreign exchange reserves increased by more than $5 billion. This was because

A. the country ran a surplus on the current account of its balance of payments

B. the country ran a deficit on the budget of the central government

C. the country was a net recipient of capital flows besides recording a current account surplus

D. the country was a net recipient of capital flows which exceeded the size of its current account deficit

Question 29

Let us assume that the GDP of some country was 100 at current prices in 2012 – 13 and that was 90 in 2011 – 12; and that the GDP at constant 2004 – 05 prices was 59 in 2012 – 13 and that was $56 \cdot 1$ in 2011 – 12, then the GDP of 2011 – 12 at 2012 – 13 (constant) prices would be

A. 59.1

B. 90

C. 95.1

D. 100

Question 30

As the captain of Indian cricket team, if Sachin Tendulkar is assumed to have observed the rule of calling 'head' every time the toss was made during the five matches of the one-day series, then what is the probability of winning the toss by India in all five matches?

A. $1/2$

B. $1/5$

C. $(1/2)^5$

D. $(1/5)^2$

Question 31

Consider the inequality $[(4/x) - 5] < 6$. Which of the following statements is true?

A. $x > 5$ is sufficient for the inequality to hold

B. $x > 5$ is both necessary and sufficient for the inequality to hold

C. $x > 5$ is neither necessary nor sufficient for the inequality to hold

D. $x > 5$ is necessary for the inequality to hold

Answer Question Nos. 32 – 34 on the basis of the following information : Three individuals, A, B and C, are suspected of income tax eváasion. They testify under oath as follows: A : B is guilty and C is innocent. B : If A is guilty, then so is C. C : I'm innocent but at least one of the others is guilty.

Question 32

Which of the following is true?

A. Testimony of A follows from testimony of B

B. Testimony of B follows from testimony of A

C. Testimony of C follows from testimony of A

D. Testimony of A follows from testimony of C

Question 33

Assuming everybody's testimony to be true, who is innocent and who is guilty?

A. A and C are innocent and B is guilty

B. B and C are innocent and A is guilty

C. C is the only innocent individual

D. All three are innocent

Question 34

Assuming the innocent told the truth and the guilty told lies, who is innocent and who is guilty?

A. A and C are innocent and B is guilty

B. B and C are innocent and A is guilty

C. A and B are innocent and C is guilty

D. C is the only innocent individual

Question 35

An outward shift of the production possibility frontier may be caused by

A. an increase in demand

B. more government spending

C. better training of employees

D. productive inefficiency

Answer Question Nos. 36 – 38 on the basis of the following information: Suppose in an economy in any period t the aggregate value of output is $Y(t) = \alpha t\} + I(t)$, the sum of aggregate consumption and investment expenditures.

Question 36

Suppose $C(t) = 0.6Y(t) + 0 \cdot 3Y(t-1)$ and $I(t) = 1000$ for all t. What is the only value of output which, once attained in this economy, will continue to persist over time?

A. 2000

B. 2500

C. 4000

D. 10000

Question 37

Suppose $C(t) = 0 \cdot 6Y(t) + 0 \cdot 3Y(t-1)$ and $I(t) = 600 + 0 \cdot 1Y(t)$ for all t and $Y(0) = 40000$ What is the rate of growth of output in the economy in period 1?

A. 2%

B. 5%

C. 7.5%

D. 12%

Question 38

Suppose $C(t) = 0.6Y(t) + 0 \cdot 3Y(t-1)$ and $I(t) = 2 \cdot 4\left[Y(t) - Y\left(t_F - 1\right)\right]$ for all t. What is the rate of growth of output in the economy?

A. 2%

B. 5%

C. 7.5%

D. 12%

Answer Question Nos. $39 - 41$ on the basis of the following information Suppose in economies A and B the aggregate value of output is $Y = C + G$, the sum of aggregate consumption and lump-sum government expenditures. The government imposes only lump-sum direct taxes and suppose T denotes the aggregate value of such taxes collected by the government. $C = a + bY_d$, where a is the value of autonomous consumption expenditures, b is the constant marginal propensity to consume out of income and Y_d is the aggregate value of disposable incomes in the economy. The value of b is higher in B than in A.

Question 39

Suppose $T = 0$ in economies A and B and the value of a is also the same in both economies. Suppose the value of G is higher in economy B than in economy A. In which economy will aggregate private savings be higher?

A. A

B. B

C. Will be the same in both economies

D. More information is needed to answer the question

Question 40

Suppose the values of a and G are the same in both economies. Suppose the value of T is higher in economy B than in economy A. In which economy will aggregate private saving be higher?

A. A

B. B

C. Will be the same in both economies

D. More information is needed to answer the question

Question 41

Suppose the value of $G - T$ is the same in both economies. Suppose that the value of a is higher in economy B than in economy A. In which economy will aggregate private saving be higher?

A. A

B. B

C. Will be the same in both economies

D. More information is needed to answer the question

Answer Question Nos. 42 – 44 on the basis of the following information : rate of interest (expressed per cent) r : $C = 388 + 0.75Y - 15r$. Suppose investment expenditure I is given by the following function : $I = 1863 + 0 \cdot 05Y - 25r$

Question 42

What is the value of the slope of the IS curve for this economy?

A. -0.0175

B. -0.02

C. -0.025

D. None of the above

Question 43

If the rate of interest is fixed at 15%, what is the value of aggregate income at which the values of demand and supply for goods and services are equalized in the economy?

A. 5575

B. 6825

C. 7675

D. 8255

Question 44

Suppose the rate of interest falls from 15% to 6%. What is the change in the value of aggregate income at which demand and supply for goods and services are equalized in the economy?

A. 1800

B. 4590

C. 2790

D. None of the above

Answer Question Nos. 45 – 48 on the basis of the following information :Consider a firm which is a monopolist in each of two completely segregated markets A and B. The total cost of the monopolist C is the following function of its total output Q : $C = 10 + 4Q$. The equations for the demand curves faced by the monopolist in markets A and B are $P_A = 16 - Q_A$ and $P_B = 36 - 4Q_B$ respectively.

Question 45

What is the profit-maximizing price for the firm in market A ?

A. 4

B. 6

C. 8

D. 10

Question 46

What is the profit-maximizing price for the firm in market B ?

A. 10

B. 12

C. 16

D. 20

Question 47

What is the profit-maximizing level of total output for the firm?

A. 6

B. 10

C. 12

D. 14

Question 48

What is the maximum level of total profits which can be earned by the monopolist?

A. 64

B. 72

C. 90

D. 105

Question 49

If $f(x) = \sin x^2$, then what is the value of $f'(-\sqrt{\pi})$?

A. 0

B. $-2\sqrt{\pi}$

C. -2π

D. $2\sqrt{\pi}$

Question 50

A set of 16 real numbers each number is multiplied by a positive real number. After multiplication, the variance of the resulting set of numbers is found to be 6.25 times the variance of the set of numbers before multiplication. What is the number which was used to multiply all the observations?

A. 4

B. 6.25

C. 12.5

D. None of the above

Question 51

Suppose two dice are rolled. What is the probability that the sum of the points on the two dice is 8, if it is known that the sum is an even number?

A. 1/12

B. 5/36

C. 1/6

D. 5/18

Answer Question Nos. 52 – 54 on the basis of the following information: The behaviour of a variable x over time is described by $dx/dt = x^2 - x$ (where t is the variable denoting time).

Question 52

Suppose at the initial point in time x has a negative value. What happens to the value of x over time?

A. Decreases without any bound

B. Increases and approaches 0 over time

C. Increases and approaches 1 over time

D. Increases without any bound

Question 53

Suppose at the initial point in time x has a positive value less than unity. What happens to the value of x over time?

A. Decreases without any bound

B. Decreases and approaches 0 over time

C. Increases and approaches 1 over time

D. Increases without any bound

Question 54

Suppose at the initial point in time x has a positive value greater than unity. What happens to the value of x over time?

A. Decreases without any bound

B. Decreases and approaches 0 over time

C. Decreases and approaches 1 over time

D. Increases without any bound

Question 55

What is the value of $\lim_{x \to 0^-} \left[\frac{|x|}{x} \right]$?

A. $-\infty$

B. 0

C. -1

D. 1

Question 56

Let $f(x) = [x]$, where $[x]$ denotes the greatest integer $\leq x$. On which of the following intervals is f a continuous function?

A. $[-2, -1]$

B. $(-2, -1]$

C. $[-2, -1\}$

D. None of the above

Question 57

In the world of Indian stock markets, participatory notes refer to

A. permits given to foreign institutional investors registered to trade in Indian stock markets

B. derivative instruments linked to shares {equity) of Indian firms sold to outside participants

C. notes issued to lenders providing credit to participants in the stock markets

D. permits given to brokerages to trade in stock markets

Question 58

If the correlation coefficient between two random variables X and Y is given by $r(-1 < r < 1)$ and the bivariate regression coefficient of Y on X is denoted by b_{yx}, which is greater than unity, then b_{xy} must be

A. greater than unity

B. less than unity

C. $1 - b_{yx}$

D. $1/b_{yx}$

Answer Question Nos. 59-60 on the basis of the following information : The mean value theorem states that if f is a continuous function on $[a, b]$ and is differentiable in (a, b)(a and b being any two real numbers), then there exists at least one real number $c \in (a, b)$ such that $f(b) - f(a) = f'(c)(b - a)$.

Question 59

Suppose $f(x) = x^2$, $a = 3$ and $b = 6$. Which of the following can be taken as a value of c ?

A. 4.4

B. $4 \cdot 6$

C. 4.8

D. None of the above

Question 60

Suppose $f(x) = x^3, a = -1$ and $b = 2$. How many value (s) of c is/are possible?

A. None

B. One

C. Two

D. Three

Answer Question Nos. $61 - 65$ on the basis of the following information :

Union Budget of India at a glance (in crore)	$2014 - 15$
1. Tax Revenue (net to centre)	9, 86, 417
2. Non-tax Revenue	1, 80, 714
3. Capital Receipts	5, 96, 083
4. Recoveries of Loans	10,527
5. Other Receipts	56,925
6. Borrowing and other Liabilities	5, 28, 631
7. Non-plan Expenditure on Revenue Account	11, 07, 781
8. Of which, Interest Payments	4, 27, 011
9. Non-plan Expenditure on Capital Account	1, 00, 111
10. Plan Expenditure on Revenue Account	4, 42, 273
11. Plan Expenditure on Capital Account	1, 13, 049
12. Nominal GDP	1, 28, 39, 952
13. Plan Expenditure to GDP Ratio	A
14. Capital Expenditure to GDP Ratio	B
15. Revenue Deficit to GDP Ratio	C
16. Fiscal Deficit to GDP Ratio	D
17. Primary Deficit to GDP Ratio	E

Question 61

A is equal to

A. 0.88%

B. 3.44%

C. 4.32%

D. NOne of the above

Question 62

B is equal to

A. 0.88%

B. 0.78%

C. 1.66%

D. None of the above

Question 63

C is equal to

A. -1.66%

B. 0.00%

C. 2.98%

D. None of the above

Question 64

D is equal to

A. -0.53%

B. 0.00%

C. 3.33%

D. $4 \cdot 12\%$

Question 65

E is equal to

A. $-3 \cdot 33\%$

B. 0.00%

C. 0.79%

D. 1.32%

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Question 1

If a country's nominal GDP is constant, then which of the following statements about it would be correct?

A. It is impossible for the real per capita GDP to rise in such circumstances.

B. The real per capita GDP can rise if and only if the country's population is shrinking and prices are falling.

C. For the real per capita GDP to rise, it is sufficient that the price level should decline.

D. It is possible for real per capita GDP to rise even if the country's population is increasing.

Question 2

The GDPs (at factor cost) and population sizes of two countries A and B were identical in a particular year. Which of the following statements is then necessarily true for that year?

A. A and B had identical per capita incomes.

B. A and B were equally wealthy countries.

C. A and B had identical levels of labour productivity.

D. Neither of the three-(a), (b) and (c) need be the case.

Question 3

If in an economy all production is undertaken by firms and the recorded sales of all firms in a year are less than their respective recorded costs, then which of the following statements is necessarily true?

A. At least some firms must have made accounting errors.

B. The economy's GDP of that year was negative.

C. The total purchases of intermediates by firms were more than their total sales.

D. Neither of the above

Question 4

The two largest net exporters of capital in the world in recent years have been

A. Germany and Japan

B. Germany and China

C. China and Saudi Arabia

D. China and Russia

Question 5

If $X_1, X_2, \ldots, X_n$ are non-negative real numbers, then their

A. arithmetic mean $\leq$ geometric mean

B. geometric mean ≤ arithmetic mean

C. arithmetic mean = 0.5 (geometric mean)

D. There is no fixed relationship between arithmetic mean and geometric mean

Question 6

Let $f(x) = (\log(x))/x$, where $0 < x < 1$. Then for all x such that $0 < x < 1$

A. $f'(x) < 0$

B. $f'(x) > 0$

C. $f'(x) > 0$, if $0 < x < 0.5$ and $f'(x) < 0$, if $0 \cdot 5 \leq x < 1$

D. Can't say anything about the sign of $f'(x)$

Question 7

The binomial theorem states that

A. $(x+a)^n = \sum_{k=0}^{n} \left(\begin{array}{c} n \\ k \end{array} \right) x^k a^{n-k}$

B. $(x+a)^n = \sum_{k=0}^{n} \left(\begin{array}{c} n \\ k \end{array} \right) x^k a^{n-k} + x^k / a^{n-k}$

C. $(x+a)^n = \sum_{k=0}^{n} \left(\begin{array}{c} n \\ k \end{array} \right) x^k a^{n-k} - x^k / a^{n-k}$

D. None of the above

Question 8

The gross fiscal deficit is

A. total expenditure less total revenue receipts

B. total borrowings less repayment of past debt

C. revenue expenditures less total revenue receipts

D. total expenditure less payment of interest

Question 9

The primary deficit refers to

A. the deficit in the primary sector of the economy

B. the deficit in the revenue account of the budget

C. the deficit in the capital account of the budget

D. the fiscal deficit less the interest outgo in the budget

Question 10

If the fiscal deficit of an economy be 3% of GDP and if the current account deficit also be 3% of GDP in a particular year for that economy, then its aggregate saving must be equal to aggregate investment. The above statement is

A. true

B. false

C. not necessarily true

D. not necessarily false

Question 11

If some individual gets 3,000 as her wage on the first day of every month and if she spends exactly 100 everyday and exhausts all her money by the end of the month, then what would be her approximate average money holding throughout the year?

A. 3,000

B. 36,000

C. 18,000

D. 1,500

Question 12

The theory of comparative advantage in a two-country, two-commodity world can only work if

A. labour and capital are mobile

B. labour is mobile and capital is not

C. both capital and labour are mobile

D. both capital and labour are not mobile

Question 13

Current account transactions of a country include

A. exports and imports of goods

B. exports and imports of goods and ínvisibles, including services

C. exports and imports of goods and invisibles and capital flows

D. exports and imports of goods and invisibles and foreign exchange reserves

Question 14

In the long run, the steady state rate of growth of a capitalist economy

A. falls with the savings propensity

B. rises with the incremental capital output ratio

C. rises with the savings propensity but falls with the incremental capital output ratio

D. falls with the savings propensity but rises with the incremental capital output ratio

Question 15

Accelerator and multiplier stand for

A. the same thing and lead to an increase in output of the economy

B. the same thing and cause an increase in investment with increase in output

C. different things with the first causing a change in investment due to a change in output and the second causing a change in output due to a change in investment

D. different things with the first causing a change in output due to a change in investment and the second causing a change in investment due to a change in output

Question 16

In practice most free trade agreements between two countries are designed to

A. eliminate tariffs

B. eliminate tariffs and other non-tariff measures

C. fully liberalize trade in goods and services

D. include free movement of all goods and factors

Question 17

Under the Bretton Woods system

A. dollar and gold were both used in international transactions

B. dollar and Special Drawing Rights issued by the International Monetary Fund were both used as international currencies

C. only Special Drawing Rights were used

D. dollar was recognized as the international reserve currency

Question 18

If the exchange rate of some economy depreciates vis-ä-vis US $ and if the Marshall-Lerner condition is satisfied, then the current account deficit of that economy is expected to

A. increase

B. decrease

C. remain the same

D. can't say

Question 19

The scatter plot of X and Y

A. gives little information about the actual values

B. requires that a linear regression be calculated and displayed

C. indicates causal direction since X is the independent variable

D. has none of the above characteristics

Question 20

A distribution of 6 scores has a median of 21 . If the highest score increases 3 points, the median will become

A. 21

B. 21.5

C. 24

D. Cannot be determined without additional information |

Question 21

Suppose that the exchange rate of the Indian rupee appreciates by 10 percent relative to the currencies of India's trading partners. Over the same period, inflation in India is 8 percent compared to 3 percent inflation in the trading partners. What is the change in India's real exchange rate?

A. 5 percent appreciation

B. 10 percent appreciation

C. 15 percent appreciation

D. 5 percent depreciation

Question 22

Consider the following statement : 'For most of the period when it was under British Crown rule, India had an export surplus and yet its foreign liabilities increased." Which of the following can be said about this statement?

A. This is correct

B. This was true only for the period of Company rule

C. This is logically impossible

D. This is logically possible but factually incorrect

Question 23

Which of the following statements is the only correct one?

A. India's per capita GDP in PPP terms is lower than that of Sri Lanka and Pakistan.

B. India's per capita GDP in PPP terms is higher than that of Sri Lanka and Pakistan.

C. India's per capita GDP in PPP terms is higher than that of Sri Lanka but lower than that of Pakistan.

D. India's per capita GDP in PPP terms is lower than that of Sri Lanka but higher than that of Pakistan.

Question 24

The aggregate population of the G7 countries is

A. less than that of either China or India

B. higher than that of China or India

C. higher than India's but less than China's

D. approximately the same as India's

Question 25

Life Insurance was nationalized in India in

A. 1947

B. 1950

C. 1956

D. 1973

Question 26

If x is any real number, then

A. $e^x = 1 + \frac{x}{1!} + \frac{x^2}{2!} + \frac{x^3}{3!} + \ldots$

B. $e^x = x + 1 + \frac{x}{1!} + \frac{x^2}{2!} + \frac{x^3}{31} + \ldots$

C. $e^x = x^2 + 1 + \frac{x}{1!} + \frac{x^2}{2!} + \frac{x^3}{3!} + \ldots$

D. $e^x = x^3 + 1 + \frac{x}{1!} + \frac{x^2}{2!} + \frac{x^3}{3!} + \ldots$

Question 27

Which of the following statements is (in general) true?

A. Marginal Cost (MC) is minimized where MC = Average Variable Cost (AVC).

B. Average Total Cost (ATC) is maximized where MC = ATC.

C. Average Variable Cost {AVCl is minimized where MC = AVC.

D. Total Revenue is maximized where MC = Marginal Revenue (MR).

Question 28

If population A has a larger standard deviation than population B

A. population A will have a greater range than B

B. population A will have a smaller range than B

C. population A will be more skewed than B

D. we cannot say which population has the greater range or skewness conclude?

Question 29

If you are told a population has a mean of 25 and a variance of 0, what must you conclude?

A. Someone has made a mistake

B. There is only one element in the population

C. There are no elements in the population

D. All the elements in the population are 25

Question 30

One card is drawn from a standard 52 -card deck. In describing the occurrence of two possible events, an Ace and a King, these two events are said to be

A. independent

B. mutually exclusive

C. random variables

D. randomly independent

Answer Question Nos. 31 – 35 in the light of the passage given below : "A multiplicity of manufacturing activities will make a kingdom or city abound in money when they are diverse and produce things necessary or useful or pleasing to people in quantities that exceed the needs of the country. There are four reasons why this is so. First, there is greater certainty in manufacturing activity, for a manufacturer is more certain to earn from his work than a farmer or other person who tills the soil or deals in his agricultural produce, for the earnings of these people depend not just on human labour but on the weather-since the land sometimes needs rain, and sometimes sun-as well as other conditions. And if these conditions are not forthcoming or the weather is bad, their work is wasted and instead of making money they lose it. But a manufacturer's earnings, are always certain, provided that he keeps working. Second, in manufacturing activitiés it is possible to achieve a multiplication of products, and therefore of earnings. The same cannot be done with agricultural produce, which is not subject to multiplication. If a given piece of land is only large enough to sow a hundred (bushels) of wheat, it is impossible to sow a hundred and fifty, there. In manufacturing, by contrast, production can be multiplied not merely twofold but a hundredfold, and at a proportionately lower cost. Third, the sale of manufactured products is more certain than that of agricultural produce, and this certainty of sale means a greater certainty of profit. For it is difficult to preserve agricultural produce for a long time without its deteriorating, so it is risky to export from country to another one far away; and it is also risky to preserve it for the future, should it not be sold immediately. Manufactured products, on the other hand, can easily be preserved even for long periods, so they can easily be exported to far off lands. And since navigation-the only art in which the moderns surpass the ancients-has been so greatly facilitated that trade is carried on not merely between east and west and north and south, but even between one hemisphere and the other, and goods can be easily transported from one to the other, who will deny that the sale of manufactured products is more certain and more profitable than that of agricultural produce? Fourth and last, manufactured goods generally yield much higher earnings than agricultural produce. ... For all these reasons the accident of a multiplicity of manufacturing activities is more important than that of domestic agricultural surplus." (From Antonio Serra-A Short Treatise on the Wealth and Poverty of Nations, 1613)

Question 31

There is greater certainty in manufacturing activities than in agriculture because

A. it is subject to increasing returns

B. it relies only on human labour

C. the manufacturing worker must always keep working

D. manufacturing products are diverse

Question 32

Manufacturing offers the possibility of more likely profit than agriculture because

A. the variety of manufacturing products is greater than the variety of agricultural produce

B. it used to be risky to export from one country to another country that is far away

C. both storage and transport are easier for manufactured goods

D. manufacturing products are diverse

Question 33

Serra believed that

A. agriculture and manufacturing are both subject to increasing returns

B. only manufacturing is subject to increasing returns

C. neither activity is subject to increasing returns

D. increasing returns are not relevant in a discussion of economic activity

Question 34

The significance of advances in navigation for Serra is that

A. it enables improved transport of agricultural produce to make up for losses when the weather is bad

B. it proves that the moderns have surpassed the ancients

C. it gets rid of the difficulty of preserving goods for the future

D. it makes profits from manufacturing more certain by expanding potential markets

Question 35

According to Serra, manufacturing

A. generates higher value added than agriculture

B. is desirable only when the quantities produced exceed the needs of the country

C. is always in a multiplicity that exceeds the agricultural surplus

D. always makes a kingdom or a city abound in money

Answer Question Nos. 36 – 38 on the basis of the information given below : A salesman visits only five different cities-Pune, Bengaluru, Chandigarh, Bhopal and Lucknow. Every year the salesman visits exactly three cities according to the following restrictions: If the salesman visits Bengaluru, the salesman also visits Pune that year. If the salesman visits Chandigarh one year, the salesman does not visit it the next year. In any year, the salesman visits no more than one of the cities he visited in the previous year.

Question 36

Which of the following is a possible sequence of combinations for the salesman to visit in two successive years?

A. Year 1 : Pune, Bengaluru, Chandigarh; Year 2 : Bengaluru, Bhopal, Lucknow

B. Year 1: Pune, Bengaluru, Bhopal; Year 2: Pune, Bengaluru, Lucknow

C. Year 1 : Pune, Bhopal, Lucknow; Year 2: Pune, Bengaluru, Chandigarh

D. Year 1: Bengaluru, Bhopal, Lucknow; Year 2 : Pune, Chandigarh, Bhopal

Question 37

If the salesman visits Pune, Bengaluru and Chandigarh in the first year, which of the following combinations must be visited in the third year?

A. Pune, Bengaluru and Chandigarh

B. Pune, Bengaluru and Bhopal

C. Pune, Chandigarh and Bhopal

D. Chandigarh, Bhopal and Lucknow

Question 38

If the salesman visits Pune, Lucknow and Bhopal in the first year, which of the following combinations must be visited in the eleventh year?

A. Pune, Lucknow and Bhopal

B. Pune, Bengaluru and Bhopal

C. Pune, Chandigarh and Bhopal

D. Chandigarh, Bhopal and Lucknow

Answer Question Nos. 39 and 40 on the basis of the table below pertaining to an economy:

Year 1	Year 2	⇐ Year / Item	
3353748	3864617	1	Final consumption expenditure
x_a	1821099	2	Gross fixed capital formation
255126	179004	3	Change in stocks
1018907	1328765	4	Exports of goods and services
1219109	1614040	5	Imports of goods and services
5050345	x_b	6	Gross domestic product at market prices

Question 39

The value of x_a has to be

A. 1896799

B. 1641673

C. 1751521

D. 2151924

Question 40

The value of x_b has to be

A. 5579445

B. 5400441

C. 6149995

D. 5970991

Question 41

An economy's output in year 0 is 10 percent below its maximum potential output and the maximum potential output steadily increases at the rate of 5 percent per annum after that. In such circumstances, for how many years would it be possible for that economy to maintain a 6 percent per annum rate of growth of actual output?

A. Not possible at all

B. 5 years

C. 11 years

D. 15 years

Question 42

In the fixed price IS-LM model, which of the following is true if we compare the effects of an increase in government expenditure (X) with that of a reduction in money supply (Y)?

A. Both will result in an increase in output but while X will be accompanied by a rise in the interest rate Y will reduce the interest rate

B. X and Y will have opposite effects on output but the same effect on the interest rate

C. X and Y will have the same effect on output but opposite effects on the interest rate

D. X will have an adverse effect on output because it will raise the level of the fiscal deficit while Y will result in an increase in output by reducing the interest rate

Question 43

Consider a Cournot duopoly in a homogeneous product market where firm 1's output is x and firm 2 's output is y The inverse demand function is given by $P = e^{-(x+y)}$. Costs are zero for all levels of output for both firms. At a Cournot equilibrium

A. each firm produces one unit of output

B. each firm produces two units of output

C. firm 1 produces one unit of output and firm 2 produces two units of output

D. there is no Cournot equilibrium

Question 44

Let $f(x)$ be a differentiable function defined over the interval $[0, 2]$. It is given that $f(0) = 1$ and $f(x) \leq 0 \rightarrow f'(x) > 0$. Then

A. $f(x) < 0$ for some x in the interval $(0, 2]$

B. $f(x) \geq 0$ for all x in the interval $[0, 2]$

C. $f(x) = 0$ for all x in the interval $[0, 1]$

D. $f(x)$ is strictly positive for all $0 < x < 1$ and $f(x)$ is strictly negative for all $1 < x < 2$

Question 45

A monopolist faces the following demand function $D(P)$:

$$\begin{aligned} D(P) &= 10 \text{ for } P \text{ in the interval } |0, 10| \\ &= 20 - P \text{ for } P \text{ in the interval } (10, 20) \\ &= 0 \text{ for } P \text{ in the interval } (20, \infty) \end{aligned}$$

Now suppose that the monopolist has zero variable cost of production. However, if it produces any positive amount, it must incur a fixed cost of $F50$. What is the optimal monopoly price?

A. 15

B. 10

C. 5

D. There is no monopoly equilibrium

Question 46

If you maximize $f(x) = 2/x^3$, subject to $0 < x < 1$, then the maximum value of $f(x)$ is obtained at

A. 0

B. 1

C. 1/2

D. $f(x)$ has no maxima for the case $0 < x < 1$

Question 47

In the Simple Keynesian model, if an increase in the level of investment is accompanied by a reduction in the propensity to save, the combined effect of these would be

A. an increase in the levels of savings and output

B. an increase in the level of savings but a reduction in the level of output

C. a' reduction in savings but an increase in output

D. either a reduction or an increase in savings but a definite increase in output 11

Question 48

In the AD-AS model, the level of aggregate demand can influence the level of output

A. if and only if aggregate supply has a positive relationship with the price level

B. if and only if the price level is constant

C. if and only if aggregate supply is not invariant with changes in the price level

D. if and only if aggregate supply is invariant with changes in the price level

Question 49

If you integrate $e^x + xe^x$ over the interval $| 0, 1]$, you get

A. 1

B. 0

C. $\frac{1}{2}$

D. e^1

Question 50

Which of the following functions has a degree of homogeneity not equal to unity?

A. $Q = 100K^{1/4}L^{3/4}$

B. $Q = 20K^{0.5}L^{0.5}$

C. $Q = K^2 + 2KL + L^2$

D. $Q = \left(K^2 + 2KL + L^2\right)^{1/2}$

Question 51

Suppose a consumer's preferences ovér commodities 1 and 2 can be represented by the utility function $U(x1, x2) = \min\{x1, x2\} + \max\{x1, x2\}$, where $x1, x2 \geq 0$. The prices of the two commodities are 1 and 2 respectively and the consumer's income is 150 . Which of the following is true?

A. At the optimum, the consumer should consume 150 units of commodity 1 and none of commodity 2

B. At the optimum, the consumer should consume 75 units of commodity 2 and none of commodity 1

C. At the optimum, the consumer should consume 50 units of commodity 1 and 50 units of commodity 2

D. At the optimum, the consumer should spend equal amounts on the two commodities

Question 52

Consider the following optimization problems : Maximize $f(x, y)$ subject to $x - 2y = 1$ and $3x + 2y = 11$ Minimize $f(x, y)$ subject to $x - 2y = 1$ and $3x + 2y = 11$ Which of the following is true?

A. The two problems have the same solution

B. The solutions to the two problems are different

C. Neither of the problems has a solution

D. Nothing can be said about the solutions to the problems unless the objective function is completely specified

Question 53

If units of good 1 are measured on the horizontal axis and its price is p per unit whereas units of good 2 are measured on the vertical axis and its price is q per unit, the slope of the budget line is then given by

A. p/q

B. $-p/q$

C. q/p

D. $-q/p$

Question 54

There are three commodities-the first commodity has a negative price, -1 per unit; the second commodity is priced at +1 per unit while the third is priced at +2 per unit. Income of the person is 100 per day. Then which one of the following is not true?

A. An individual may afford to consume positive amounts of each per day

B. An individual may afford to consume any amounts of goods 2 and 3 per day

C. Any individual may afford to consume $(0, 0, 60)$

D. An individual may afford to consume $(20, 0, 60)$

Question 55

Among twenty-five articles, nine are defective, six having only minor defects and three having major defects. Determine the probability that an article selected at random has major defects given that it has defects.

A. 1/3

B. 1/4

C. 6/25

D. None of the above

Question 56

The arithmetic mean of passengers on a metro car is 60 . If the number of passengers on a car has a normal distribution with a standard deviation of 20, approximately what percent of metro cars carry more than 80 passengers?

A. 16%

B. 48%

C. 68%

D. 88%

Question 57

Satish is very conscious about the food he eats. He only eats rotis and dal; a cup of dal costs $F2$ while each roti costs $P1$ and Satish decides to spend only \$13 per day on food. Also he decides to consume exactly 5500 calories a day; he has been told that each roti has 1000 calories while each cup of dal has 500 calories. He spends his entire money allocated on foods. Then

A. he consumes 3 rotis and 5 cups of dal

B. he consumes no more than 3 rotis per day

C. he consumes no more than 5 cups of dal per day

D. Unless we are given some more information about preferences, we cannot say what Satish does

Question 58

Let X, Y, Z be statements. Suppose we know that if X then Y is true, and that if Y then Z is true. We also know that Y is false. We can infer that

A. X is true

B. X is false

C. Z is true

D. Z is false

Question 59

Let X and Y be statements. If we want to disprove the claim that ' X implies Y', we need to show that

A. X is false

B. Y is false

C. X is true but Y is false

D. Y is true but X is false

Question 60

Let X, Y, Z be statements. Suppose we know that ' X implies Y', and that ' Z implies X '. We also know that Y is false. We can infer that

A. X is false and Z is true

B. X is true and Z is false

C. both X and Z are true

D. both X and Z are false

Question 61

Let X and Y be statements. Which of the following strategies is not a valid way to show that X implies Y ?

A. Assume that Y is false, and then use this to show that X is false

B. Show that some statement Z implies Y, and then show that X implies Z

C. Show that either X is false, or Y is true, or both

D. Assume that X is false, and Y is true, and deduce a contradiction

Question 62

Let X and Y be statements. If we know that ' X implies Y ', then we can also conclude that

A. X is true and Y is also true

B. if X is false, then Y is false

C. if Y is true, then X is true

D. None of the above

Question 63

Let X, Y, Z be statements. Suppose we know that ' X implies Y', and that ' Y implies Z '. If we also know that X is false, we can infer that

A. both Y and Z are true

B. Y is true and Z is false

C. Y is false and Z is true

D. None of the above

Question 64

Let x, y and z be arbitrary real numbers. Then we must have

A. $x > y \rightarrow xz > yz$

B. $x > y \rightarrow x - z > y - z$

C. $x > y \rightarrow x/z > y/z$

D. $x > y \rightarrow 1/x > 1/y$

Question 65

The mean of the following sample

X	Frequency of X
2	1
3	2
4	3

is

A. 3

B. 2

C. 3.33

D. 2.22

Answer Question Nos. 66 – 70 on the basis of the table below pertaining to an economy

Year 1	Year 2	Year 3	Year 4	Year 5	⇐ Year / item	
4705447	5411104	6406834	7434965	y_e	1	National income
600612	620370	825175	y_d	1153503	2	Indirect taxes
274116	251446	289920	349625	429098	3	Subsidies
y_a				8980383	4	Net national income at market prices
−32923	−38000	y_c	−76830	−116766	5	Net factor income from abroad
4738370	y_b	6488641	7511795	8372744	6	Net domestic product at. factor cost

Question 66

The value of y_a has to be

A. 5031943

B. 5580175

C. 5064866

D. 4705447

Question 67

The value of y_b has to be

A. 5818028

B. 5780028

C. 5411104

D. 5449104

Question 68

The value of y_c has to be

A. -535255

B. 453448

C. -81807

D. Cannot be determined

Question 69

The value of y_d has to be

A. 272795

B. 426455

C. 76830

D. Cannot be determined

Question 70

The value of y_e has to be

A. 8980383

B. 8372744

C. 9097149

D. 8255978

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Answer Question Nos. 1 – 5 on the basis of the following : Suppose an unbiased coin is tossed repeatedly 25 times under the same conditions.

Question 1

What is the expectation of the number of heads in 25 tosses?

A. 12

B. 12.5

C. 12 or 13

D. 13

Question 2

What is the standard deviation of the number of tails in 25 tosses?

A. Not more than $2 \cdot 5$

B. More than 2.5 but not more than $3 \cdot 5$

C. More than 3.5 but not more than 4.5

D. More than $4 \cdot 5$

Question 3

What is the standard deviation of the proportion of heads in 25 tosses?

A. 0.025

B. 0.05

C. 0.1

D. 0.25

Question 4

If the unbiased coin was replaced with a coin biased towards the outcome head, the standard deviation of the number of tails in 25 tosses (compared to that for the unbiased coin) would have been

A. smaller

B. the same

C. larger

D. at least as large

Question 5

If the unbiased coin was replaced with a coin biased towards the outcome tail, the standard deviation of the number of tails in 25 tosses (compared to that for the unbiased coin) would have been

A. smaller

B. the same

C. larger

D. at least as large

Answer Question Nos. 6 – 10 on the basis of the following : Suppose in an economy the amount of income tax(T) which has to be paid by an individual with income (Y) is given by the following relations : $T = 0$, if $Y < 25$ $T = -25 + 5Y^{\frac{1}{2}}$, if $Y \geq 25$

Question 6

What is the rate of income tax paid by an individual with income 225 ?

A. Not more than 10%

B. More than 10%, but not more than 20%

C. More than 20%, but not more than 30%

D. More than 30%

Question 7

What is the marginal rate of income tax at income level 225 ?

A. Not more than 10%

B. More than 10%, but not more than 20%

C. More than 20%, but not more than 30%

D. More than 30%

Question 8

The level of income for individuals who have to pay the maximum rate of income tax in this economy is

A. not more than 100

B. more than 100 , but not more than 200

C. more than 200 , but not more than 300

D. more than 300

Question 9

The maximum rate of income tax which has to be paid by any individual in this economy is

A. not more than 20%

B. more than 20%, but not more than 30%

C. more than 30%, but not more than 40%

D. more than 40%

Question 10

Over the income range 167 to 219, the income tax regime is

A. progressive

B. regressive

C. proportional

D. None of the above

Question 11

Let a consumer's preference relation satisfy (i) local nonsatiation (ii) strict monotonicity Which of the following is true?

A. (ii) implies (i)

B. (i) and (ii) are independent

C. (i) and (ii) are equivalent

D. Cannot say

Question 12

Which of the following is not a component of the capital account of balance of payments?

A. Funds brought in by workers working in another country

B. Funds brought into a country by a foreign company

C. Funds coming in for buying shares in stock markets

D. Acquisition of a house in India by a non-resident Indian

Question 13

For what value of x is the following matrix invertible?

x	1	0
0	2	1
3	1	2

A. $x = -1$

B. $x = 1$

C. $x < -1$ or $x > 1$

D. $x = 0$

Question 14

Under the Bretton Woods system

A. dollar and gold were both used in international transactions

B. dollar and Special Drawing Rights issued by the International Monetary Fund were both used as international currencies

C. only Special Drawing Rights were used

D. dollar was recognized as the international reserve currency

Question 15

According to the quantity theory of money, an increase in the money supply results in an increase in which of the following?

A. Interest rate

B. Unemployment

C. Nominal gross domestic product

D. The government's budget deficit

Question 16

Assume that there are only two countries, X and Y, that produce only two gcods, A and B. The table below shows labour hours required in each country to produce a unit of each good :

	Good A	Good B
Country X	55	65
Country Y	45	40

Which of the following statements is correct?

A. Country Y has a comparative advantage in producing both goods.

B. Country X has a comparative advantage in producing good A.

C. The two countries should not trade since country Y produces both goods using less quantities of labour.

D. None of the above

Question 17

If the Reserve Bank of India reduces the supply of Indian rupees on the foreign exchange market relative to the United States dollar, which of the following s:tuations is likely to occur?

A. Indian rupee will depreciate

B. The United States dollar will appreciate

C. The United States consumers will have to pay more for products exported by India

D. The United States goods imported by India will be more expensive

Question 18

The function $f(x) = x^2$ is

A. strictly convex

B. strictly concave

C. convex when $x < 0$ and concave when $x > 0$

D. None of the above

Question 19

Suppose x is a positive real number. Let y be two-third of sixty percent of x and let z be forty percent of x. Which of the following statements is true?

A. $y > z$

B. $y = z$

C. $y < z$

D. None of the above

Question 20

In a simple Keynesian model of closed economy without taxes, if the marginal propensity to save is 0.3, an increase in government expenditure by 1,000 crore will result in an approximate increase in a country's income by

A. 3,300 crore

B. 300 crore

C. 7,000 crore

D. 700 crore

Question 21

Let $\log(x)$ represent the natural logarithm of x. Now let $f(x) = a^x$ where a is a positive constant. Then the derivative of $f(x)$ w.r.t. x is

A. 1

B. 0

C. $x^2 \log(a)$

D. $a^x \log(a)$

Question 22

M1 measure of money supply is equal to

A. currency with the public + demand deposits with the banking system + 'other' deposits with the RBI

B. currency with the public + savings deposits of post office savings banks

C. demand deposits with the banking system + short-term time deposits of residents

D. time deposits with the banking system

Question 23

In a frequency distribution, what percent of the total number of observations lies between the first and third quartiles?

A. 50

B. 68

C. 75

D. The question cannot be answered without knowledge of the specific distribution

Question 24

The power of a statistical test is

A. Pr (accept H_0 | H_0 true)

B. Pr (reject H_0 | H_0 true)

C. Pr (accept H_0 | H_1 true)

D. Pr (reject H_0 | H_1 true)

Question 25

Sonia has decided to always spend one-tenth of her income on shoes. Her income and price elasticities of demand for shoes are

A. income elasticity zero, price elasticity unity

B. income elasticity zero, price elasticity zero

C. income elasticity unity, price elasticity unity

D. income elasticity unity, price elasticity zero

Question 26

If the incomes of some people in an economy grow faster than that of others, then

A. the level of inequality rises

B. the level of inequality falls

C. the level of inequality can change in either direction

D. there is no change in the level of inequality

Answer Question Nos. 27 – 29 on the basis of the following : "What, at any time, is regarded as 'money' are those forms of financial claims which are commonly used as means of clearing debts. But any shortage of commonly-used types is bound to lead to the emergence of new types; indeed, this is how, historically, first bank notes and then chequing accounts emerged. Of course, within limits, the ultimate monetary authority can and does exercise control over the volume of borrowing, because it can control interest rates, particularly at the short end, through open market operations, far more powerfully than other operators, and because, within limits, it can control the volume and direction of lending by the clearing banks, which have such a powerful role in the system as suppliers of credit. But when credit control is operated as an independent instrument-as a substitute for fiscal policy, and not as a complement to it-any forceful initiative by the monetary authorities weakens their hold over the market by diverting business from the clearing banks to other financial institutions. When the central bank succeeds in controlling the quantity of 'conventional money', lending and borrowing is diverted to other sources, and the velocity of circulation', in terms of conventional money, is automatically speeded up." (Nicholas Kaldor-The New Monetarism, 1970)

Question 27

According to Kaldor, chequing accounts

A. are not money because they are not financial claims

B. are identical to all other forms of financial claims

C. emerged because of shortage of other types of liquidity like commodity money or banknotes

D. are the most commonly used means of clearing debts

Question 28

The monetary authority can control the volume of borrowing

A. by supplying credit directly

B. by controlling interest rates through open market operations

C. by shorting on clearing banks

D. in an unlimited way

Question 29

If the central bank tries to control credit

A. it can divert lending and borrowing to other forms of financial claims

B. it can only do so if it is a substitute for fiscal policy

C. it will have to do so forcefully so as to divert business from the clearing banks

D. it must do so through open market operations

Question 30

A typical indifference curve is negatively sloped in a two-commodity world because

A. marginal rate of substitution is diminishing

B. more of any commodity is better

C. marginal rate of technical substitution is diminishing

D. None of the above

Question 31

Let $f(x)$ be differentiable for all x such that $0 < x < 1$. Which of the following statements is true?

A. $f(x)$ is continuous for all x such that $0 < x < 1$

B. $f(x)$ is continuous when $x < \frac{1}{2}$ but discontinuous at some other x

C. We cannot say anything about the truth of (a) and (b) given the information

D. None of the above

Question 32

In the IS-LM model, 'crowding out effect' will not happen if 1. money supply is fixed 2. money supply is adjustable 3. economy is saddled in the liquidity trap' 4. money demand is only for transaction purposes Which of the above is/are true?

A. Both 1 and 4

B. Only 3

C. Both 2 and 3

D. Only 2

Answer Question Nos. 33-36 on the basis of the following : Let the following utility function represent the preference relation of an individual :

$$U(x, y) = x^{1/2} + y$$

Let P_x, P_y, M denote the prices of goods x, y and money income respectively; $P_x, P_y, M > 0$.

Question 33

Optimal consumption bundie of the consumer includes

A. only good x

B. only good y

C. both the goods x, y

D. Cannot say

Question 34

Given prices, as M increases optimal consumption of x

A. increases

B. decreases

C. remains constant

D. Cannot say

Question 35

Let

$$P_y = 2, P_x = \frac{1}{4M}$$

Optimal consumption bundle includes

A. only good x

B. only good y

C. both the goods x, y

D. Cannot say

Question 36

If $P_x = P_y$, in the optimal consumption bundle

A. equal amount of x, y is consumed

B. consumption of x is more than y

C. consumption of y is more than x

D. Cannot say

Answer Question Nos. 37 – 43 on the basis of the following : Advance estimates of GDP for 2015 – 16 and 1 st revised estimate of GDP for 2014 – 15 (in crore). Advance estimates of GDP for 2015 – 16 and 1 st revised estimate of GDP for 2014 – 15 (in crore).

		GVA at basic prices	Taxes on products including import duties	Subsidies on Products	*GDP*
At constant 2011 – 12 prices	2014 – 15 (1st RE)	9727490	1108339	283679	A
	2015–16 (AE)	B	1193486	280102	11350962
	Growth	C	7 · 7	–1.3	D
At current prices	2014 – 15 (1st RE)	E	1350361	334565	12488205
	2015–16 (AE)	12252306	1643688	328802	F
	Growth	G	21 · 7	–1.7	H

Question 37

A is equal to

A. 1, 05, 52, 150 crore

B. 89, 02, 830 crore

C. 97, 27, 490 crore

D. 1, 11, 19, 508 crore

Question 38

B is equal to

A. 1, 13, 50, 962 crore

B. 98, 77, 374 crore

C. 1, 22, 64, 346 crore

D. 1, 04, 37, 578 crore

Question 39

C is equal to

A. 1.5%

B. 26 · 1%

C. 7.3%

D. 16.7%

Question 40

D is equal to

A. 7.6%

B. 27.5%

C. $2 \cdot 1\%$

D. 16.7%

Question 41

E is equal to

A. 1, 24, 88, 205 crore

B. 1, 08, 03, 279 crore

C. 1, 35, 04, 001 crore

D. 1, 14, 72, 409 crore

Question 42

F is equal to

A. 1, 22, 52, 306 crore

B. 1, 35, 67, 192 crore

C. 1, 09, 37, 420 crore

D. 1, 42, 24, 796 crore

Question 43

G is equal to

A. 13.4%

B. $-9 \cdot 3\%$

C. 6.8%

D. -1.9%

Question 44

Real variables x and y satisfy the relation $dy/dx = x^3/y^2$ and we know that the value

A. 5

B. 6

C. 8

D. 12

Question 45

What is the definite integral of $e^{\ln(2x+1)}$ from 1 to 2 ?

A. 3

B. 5

C. 9

D. None of the above

Question 46

In a two-good world (say goods are x and y) where any amount of goods x, y can be consumed if an individual's preference ordering is lexicographic (i.e., x is lexicographically preferred to y), then which of the following is the utility function that represents such a preference ordering?

A. $u(x, y) = xy$

B. $u(x, y) = x - 1/y$

C. $u(x, y) = y - 1/x$

D. No utility function can represent such preferences

Question 47

In game theory, which one of the following statements is true?

A. A dominant strategy equilibrium is always a Nash equilibrium but a Nash equilibrium need not be a dominant strategy equilibrium.

B. A dominant strategy equilibrium is never a Nash equilibrium.

C. A Nash equilibrium is always a dominant strategy equilibrium.

D. A Nash equilibrium is never a dominant strategy equilibrium.

Question 48

In a two-good world, if the goods are perfect substitutes, then the indifference curves are

A. kinked straight lines

B. curved lines that are convex to the origin

C. straight lines

D. None of the above

Question 49

A rise in Tobin's q ratio is supposed to lead to a rise in

A. consumption expenditure

B. investment expenditure

C. government expenditure

D. net export

Question 50

The real balance of Pigou effect relates to the effect of a fall in the price level on

A. consumption expenditure

B. investment expenditure

C. government expenditure

D. net export

Question 51

Prove that the sum of the first n odd integers is n^2.

Question 52

In a perfectly competitive industry, the long-run demand curve is given by $p = 1000 - q$, the long-run average cost function for the representative firm is given by $(q-4)^2 + 40$. How many identical firms can exist in this industry? Explain. (q = quantity sold by a firm and p = price)

Question 53

Consider the problem Maximize $3x + y$ subject to

$$y + 5x = 10, x >= 0, y >= 0$$

Obtain a solution and check that the solution you have is indeed a maximum.

Question 54

A monopolist produces a single good and supplies it to two markets. Inverse demand functions for the two markets are $P_1 = 50 - 5Q_1$ and $P_2 = 100 - 10Q_2$ respectively. Cost of production function for the monopolist is $C(Q) = 90 + 20Q$. Find out-

(a) the profit maximizing output for the monopolist;

(b) the profit maximizing supplies to the two markets;

(c) the maximum profits that the monopolist can realize.

Question 55

In an economy where 20 percent of income is taxed and consumption expenditure is 75 percent of post-tax income. If the level of investment expenditure is $F500$ and government expenditure is $\nabla 1,100$, then

(a) what is the level of income;

(b) what is the budget deficit;

(c) what will be the level of income when with unchanged investment and tax rate, government expenditure is such that the budget is balanced?

Question 56

"It is true, that, when an individual saves he increases his own wealth. But the conclusion that he also increases aggregate wealth fails to allow for the possibility that an act of individual saving may react on someone else's savings and hence on someone else's wealth.... For although the amount of his own saving is unlikely to have any significant influence on his own income, the reactions of the amount of his consumption on the incomes of others makes it impossible for all individuals simultaneously to save any given sums. Every such attempt to save more by reducing consumption will so affect incomes that the attempt necessarily defeats itself. It is, of course, just as impossible for the community as a whole to save less than the amount of current investment, since the attempt to do so will necessarily raise incomes to a level at which the sums which individuals choose to save add up to a figure exactly equal to the amount of investment." (J. M. Keynes) On the basis of the above passage, answer the following questions :

(a) What happens when the community as a whole decides to save less than the current investment?

(b) Can all individuals end up with a higher aggregate saving by deciding simultaneously to consume less and save more?

Question 57

The following data are given for an economy : GDP at factor cost = 10, 000 Net current account balance = −500 Gross investment = 2, 000 Net factor incomes from abroad = −800 Depreciation = 1, 000 Net indirect taxes = 1, 300 Calculate the following :

(a) GDP at market prices

(b) GNP at market prices

(c) Gross savings

(d) Net savings

(e) NNP at factor cost

Question 58

Other things remaining the same, what will be the effect of an increase in unilateral transfers from the rest of the world on a country's national income and its disposable income? Explain your answer.

Question 59

Four students A, B, C, D competed in mathematics, logic, literature and economics contests, and each one of them won one contest. Below are given the forecasts made by these students : a) D will win the logic contest b) C will win the economics contest c) A will not win the mathematics contest d) B will win the literature contest It turned out that the forecasts made by the winners of the literature and economics contests were wrong; and those made by the winners of the mathematics and logic contests were right. Who won which contest?

Question 60

Answer any one of the following in not more than 500 words :

(a) What have been the impacts of the Mahatma Gandhi National Rural Employment Guarantee Programme on the rural economy of India? Explain your answer.

(b) Would you agree that export-oriented growth is the best strategy for India in the current situation? Why?

(c) Write an essay on the relevance of inflation targeting' for the Indian economy.

(d) Discuss the rationale of the strategy of import substituting industrialization in India during the 1950 s and 1960 s.

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Question 1

Demonetisation refers to

A. the shift from cash money-based to non-cash money-based means of transacting

B. the de-recognition by the central bank of some currency notes as legal tender

C. the declaration of some currency notes as counterfeit or the result of corrupt practices

D. the physical removal of some currency notes from circulation

Question 2

X is a random variable that takes the values (i) 1 with probability p and (ii) -1 with probability $(1-p)$. Assume that $0 < p < 1$ Let $Y = X^2$. Which one of the following statements is true?

A. The mean of Y is $(2p \cdot 1)^2$.

B. The variance of Y is zero.

C. The variance of Y depends on the value of p.

D. None of the above

Question 3

X is a random variable with mean equal to 1 and variance equal to 9 . Let $Y = 3 \times X + 6$ and $W = -3 \times X + 6$. Which one of the following statements is true?

A. The covariance of W and Y cannot be calculated from the given information.

B. The covariance of W and Y is equal to 9 .

C. The correlation coefficient of W and Y is equal to -1.

D. The correlation coefficient of W and Y is equal to 1 .

Question 4

The correlation coefficient of X and Y is known to be zero. We can then conclude that

A. X and Y are independent random variables

B. X and Y are identically distributed

C. there exists no linear relationship between X and Y

D. None of the above

Direction : Answer Question Nos. $5-7$ on the basis of the following : Random variable X can take two values : 1 and 2. Random variable Y can take three values: 1,2 and 3 . The joint probability distribution of X, Y is given by $f(x, y) = k \times x \times y$, where $x = 1, 2$ and $y = 1, 2, 3$

Question 5

What is the value of k ?

A. 1/6

B. 1/9

C. 1/18

D. 1/21

Question 6

What is the probability that random variable X takes the value 2 ?

A. 2/3

B. 1/3

C. 1/2

D. 3/4

Question 7

What is the expected value of the random variable Y ?

A. 2

B. 7/3

C. 4/3

D. 3/2

Question 8

A and B are two events. B^C is the complement of B. It is known that (i) $P(A)$, the probability of event A, is 1/3 and (ii) $P\left(B^C\right)$, the probability of event B^C, is 1/5. Which one of the following statements is certainly true?

A. A and B are independent events.

B. A and B are disjoint (i.e., mutually exclusive) events.

C. A is a subset of B.

D. None of the above

Question 9

A and B are events. $P(A)$, the probability of event A, is strictly greater than $0.P(B)$, the probability of event B, is strictly greater than $0.A$ and B are independent events. B^C is the complement of $B.A^C$ is the complement of A. Which one of the following statements is certainly true?

A. The intersection of A and B is the null set.

B. Events A and B^C cannot be independent

C. Events A^C and B^C are independent.

D. None of the above

Question 10

Let $x = 2\%$ of 0.03. Let $y = x/100$. Then, y is equal to

A. 6×10^4

B. 0.0006

C. 0.00006

D. 0.000006

Question 11

The initial wealth of a person is ∇x. It is known that wealth doubles every two years. 50 years after the initial point of time, the person's wealth equals 710 lakhs. When was the person's wealth equal to 75 lakhs?

A. 25 years after the initial point of time

B. 24 years after the initial point of time

C. The answer depends on the value of x

D. None of the above

Question 12

Four students A, B, C and D took a test. The average score of A and D is 85, that of C and D is 90, and that of B and C is 75. What is the average score of A and B ?

A. 70

B. 75

C. 80

D. 85

Question 13

A function $f\theta$ satisfies the following two properties : (i) $f(1) = 1$ (ii) $f(a) = (a-1)\times f(a-1)$ where a is any positive real number. Assume that n is a positive integer. Which one of the following statements is certainly true?

A. $f(n) = (n-1)$

B. $f(n) = (n-1)!$

C. $f(n) = n \times (n-1)$

D. $f(n)$ cannot be computed from the information given

Question 14

Consider the foliowing quadratic function of t :

$$f(t) = a + b \times t + c \times t^2$$

where a, b, c and t are real numbers. It is known that for all values of t, $f(t) \geq 0$. A real number x is called a root of the function f if it satisfies the condition $f(x) = 0$. Which one of the following statements is certainly true?

A. The function f has exactly two roots.

B. The function f has no roots.

C. The function f has exactly one root.

D. The function f has at most one root.

Question 15

Consider the function $f(x) = x/e^x$. Which one of the following statements is true?

A. There is no value of x such that $f'(x) = 0$

B. $f'(x) > 0$ for all values of x

C. $f'(x) \leq 0$ for all values of x

D. $f''(x) = x/e^x - 2/e^x$

Question 16

The number p solves the following equation : $\int_0^p e^{2x}dx = 1$ What is the value of p ?

A. 0

B. $(1/2) \times \ln 3$

C. $\ln 2$

D. $(1/2) \times \ln(3/2)$

Question 17

Angle θ is an acute angle and $\sin\theta = 11/14$. What is the value of $4\cos\theta$?

A. $3/14$

B. $\sqrt{3}/14$

C. $\sqrt{(3/14)}$

D. $10 \times \sqrt{3}/7$

Question 18

If x and y are both even numbers, which of the following could be an odd integer?

A. $(x+y)^2$

B. $(x+1)^2 + (y+1)^2$

C. $(x+1) \times (y+1) - 1$

D. None of the above

Question 19

In the standard (x, y) coordinate plane, the graph of $(x+3)^2 + (y+5)^2 = 16$ is a circle. What is the circumference of the circle, expressed in coordinate units?

A. 4π

B. 5π

C. 3π

D. 8π

Question 20

A person's total spending on grapes rises when the price falls from 2 per kg to 1 per kg. What can we say about the person's demand for grapes?

A. Elasticity of demand (in absolute values) is greater than 1

B. Elasticity of demand (in absolute values) is less than 1

C. Demand is unit elastic

D. Demand is inelastic

Question 21

Economy A and Economy B have constant rates of unemployment over time, these being 5% and 10% respectively. The exponential rate of growth of aggregate output in A is a constant 4% and that in B is a constant 8%. The exponential rate of growth of labour productivity in A is 2% and that in B is 4%. Which economy must be having the higher rate of growth of labour force over time?

A. A

B. B

C. Both A and B have the same rate

D. Information provided is insufficient to answer the question

Question 22

If the aggregate currency with the public reduces and total demand deposits increase by exactly the same amount, the aggregate money supply in the economy would

A. go up

B. come down

C. remain unchanged

D. None of the above

Question 23

In a barter economy, if a farmer exchanges 100 units of corn for a fish from a fisherman, and if the fisherman keeps 50 units of corn for his own consumption and exchanges 50 units of corn and a fish to buy a piece of cloth from the weaver, then what is the price of the cloth in terms of corn?

A. 100

B. 200

C. 50

D. 150

Question 24

In a world with only three countries (A, B and C), if countries A and B have trade surpluses, then which of the following can be said (assume exports and imports are both valued fob)?

A. C must necessarily have a current account deficit

B. C 's trade is balanced

C. If C has a current account surplus, it must necessarily have a surplus in its invisibles balance

D. C could also have a trade surplus

Question 25

If the GDP of a country in a year is $1,000$, its NDP is 7950 and the expenditures on machinery and equipment, and construction are 150 and 100 respectively, then what would be its Net Fixed Capital Formation in the year?

A. 150

B. 200

C. 250

D. Cannot be determined without knowing the change in stocks

Question 26

If a country has a surplus in the capital account of its balance of payments, then its foreign exchange reserves

A. must necessarily decline

B. must necessarily increase

C. would remain unchanged

D. None of the above

Question 27

In an economy where all employment is wage employment, what will happen to the share of wages in value added if the productivity of labour increases by 10 percent while the annual average real wage goes up by 8 percent?

A. It will necessarily come down

B. It will remain unchanged

C. It will increase

D. Cannot be determined without knowing what happens to employment

Question 28

Suppose that consumers' preferences satisfy completeness, continuity, transitivity, reflexivity and strong monotonicity. Furthermore, assume that X is a normal good, Y is an inferior good and that the price of good Y increases. Then, which of the following effects is known with certainty?

A. The income and substitution effect will reinforce one another leading to an overall decrease in the consumption of good X

B. The income and substitution effect will reinforce one another leading to an overall increase in the consumption of good Y

C. The income and substitution effect will reinforce one another leading to an overall increase in the consumption of good X

D. The income and substitution effect will have competing effects leading to an indeterminate impact on the consumption of good Y

Question 29

Amit inherits $\$10,000$ from a rich uncle. It is observed that even though there have been no change in prices, he continues to eat the same number of Gulab Jamuns per day. Which one of the following statements is necessarily true?

A. Gulab Jamuns are Giffen goods for Amit.

B. Amit's Engel curve for Gulab Jamuns is vertical.

C. Amit's preferences are not homothetic.

D. None of the above

Question 30

Which one of the following statements is necessarily true?

A. A monopolist always operates on the inelastic portion of the demand curve it faces.

B. If a monopolist can charge different prices in two different markets, then it would tend to charge the lower price in the market with the less elastic demand.

C. The level of output produced by a perfectly price-discriminating monopolist is efficient.

D. None of the above

Question 31

In a closed economy with unutilised capacity, if the investment rate remains unchanged and savings amount to 20 percent of GDP, an increase in the government's fiscal deficit by 100 units will cause economic activity to increase by

A. 100 units

B. 120 units

C. 200 units

D. 500 units

Question 32

In an open economy with unutilised capacity, if the investment rate remains unchanged, savings amount to 20 percent of GDP and imports account for 30 percent of GDP, an increase in the fiscal deficit by 100 units will cause economic activity to increase by

A. 70 units

B. 100 units

C. 200 units

D. 300 units

Question 33

Suppose an economy's real output in 2015 was 10 percent below its maximum potential output while in the next year it was only 5 percent less. If net investment was positive and the size of the labour force also increased, then one can say that the increase in output in 2016 over that in 2015 was

A. exactly 5 percent

B. more than 5 percent

C. less than 5 percent

D. below 10 percent

Question 34

An economy's real GDP per capita in a year was 50 percent greater than a decade earlier and its population grew by 20 percent over the same period. If that economy did not experience a decline in its price level in any year, then the minimum increase in its nominal GDP over the decade had to be

A. 20 percent

B. 50 percent

C. 70 percent

D. 80 percent

Question 35

Suppose that the currency in circulation in India at the time from which the legal tender status of the old 500 and 1000 rupee notes stood withdrawn was 718 lakh crores. If over the next 15 days, the public deposited 77 lakh crores of invalid currency with banks and withdrew 2 lakh crores of new currency while banks deposited 6 lakh crores with the RBI, then the currency in circulation at the end of that period would have been (assuming no other transactions which could have influenced it)

A. 12 lakh crores

B. 11 lakh crores

C. 13 lakh crores

D. Cannot be determined

Question 36

Consider the statements I and II and choose the correct option : I. If the incomes of some people in an economy grow faster than that of others, the level of income inequality rises. II. If the level of income inequality in an economy rises, the incomes of some people grow faster than that of others.

A. Both I and II are always true

B. *I* is always true while II is sometimes true

C. I is sometimes true while II is always true

D. Both I and II are sometimes true

Question 37

A monopolist claims that his profit-maximising quantity is 10 and the resultant market price is 5. What is the price elasticity of demand for the firm's product?

A. -1.5

B. $-2 \cdot 0$

C. -0.5

D. Cannot be determined

Question 38

Line L_1 passes through the points $(-2, 0)$ and $(0, k)$. Line L_2 passes through the points $(4, 0)$ and $(6, 2)$. What value of k makes the two lines parallel?

A. $1/2$

B. -2

C. 2

D. $-1/2$

Question 39

If $\log_4(x) = 12$, then $\log_2(x/4)$ is equal to

A. 11

B. 48

C. -12

D. 22

Question 40

A consumer's preference over commodities 1 and 2 can be represented by the utility function $U(x_1, x_2) = x_1 + x_2$. Suppose the price of commodity 1 changes. Which of the following statements is certainly correct?

A. There is no income effect on the demand for commodity 1.

B. There is no substitution effect on the demand for commodity 1.

C. There is no substitution effect on the demand for commodity 1 if the cheaper good remains cheaper after the price change.

D. There is no income effect on the demand for commodity 1 if the cheaper good remains cheaper after the price change.

Question 41

Consider a closed economy without government spending or taxes. The equilibrium value of output in each period is determined by the equality of (the value of) output and expenditure. Saving in period t is given by $S(t) = s \cdot Y(t)$ and investment expenditure in period $t+1$ is given by $I(t+1) = a + b \cdot Y(t)$, for all values of t.a is a positive constant, s and b are positive constants less than unity and $Y(t)$ is the value of output in period t. What relation must hold between the values of s and b for there to exist a value of output in this economy, which once achieved in a time period will continue to persist in subsequent periods of time?

Question 42

Consider an economy in which loans can be of two kinds. Loans may be made and repaid in terms of gold or they may be made and repaid in terms of cash. Suppose all markets are perfectly competitive, which also implies that there are no costs of transacting in markets. In the current period, a loan of 140gm of gold has to be repaid in the next period with interest of 7gm of gold, a loan of 2120 has to be repaid with interest of 218 and all lenders and borrowers are indifferent between gold loans and cash loans. What is the expected percentage rise in the rupee price of gold next period?

Question 43

In a two-good world, a consumer's utility function is given by the following : $U(x, y) = \max\{x, y\}$, where x and y are the amounts consumed of the first and second goods respectively. The price of each of the two goods is 22 per unit. The consumer's income is 100. Draw the consumer's indifference curves and find out his utility-maximising consumption bundle(s).

Question 44

The production sector of a closed economy consists of only two firms, A and B, which produce products x and y respectively. x is exclusively an intermediate good and the only intermediate used in the production of both x and y, while y is the final good. The unit prices of x and y are 25 and 710 respectively. The stocks of unused or unsold x and y held by the two firms at the beginning and at the end of the year are given in the table below :

	Stocks at Year Beginning (no. of units)		Stocks at Year End ino. of units)	
	x	y	x	y
Firm A	20	0	25	0
Firm B	10	10	20	20

If firm B s sales in the year are 210,000 , determine the economy's GDP in that year.

Question 45

Teji Singh likes peanut butter and jelly together in his sandwiches. However, Teji is very particular about the proportions of peanut butter and jelly. Specifically, Teji must have 2 scoops of jelly with each 1 scoop of peanut butter. The cost of scoops of peanut butter and jelly are 0.50 and 0.20 respectively. Teji has 9 each week to spend on peanut butter and jelly. You can assume that Teji's mother provides the bread for the sandwiches.) If Teji is maximising his utility subject to his budget constraint, how many scoops of peanut butter and jelly should he buy?

Question 46

Compute $\int_1^2 \frac{x^2+2x+1}{x} dx$.

Question 47

Suppose a monopolist faces the following inverse demand function :

$$p = e^{-Q}$$

The monopolist can produce any positive level of output with zero variable cost. Its fixed cost is F. Find the profit-maximising output for two cases (i) when $F = 0 \cdot 1$ and (ii) when $F = 0 \cdot 5$.

Question 48

Find the global maximum of $f(x) = x^3 - 3x$ in the interval $[-2, 3]$.

Question 49

a and b are real numbers. If $a < b + \varepsilon$ for all real numbers $\varepsilon > 0$, then show that $a \leq b$.

Question 50

Answer any one of the following in not more than 500 words :

(a) When President Trump of the United States says that he will create an economic recovery in the US by lowering tax rates and increasing military and infrastructure spending, what is the economic argument he is relying upon? What are the assumptions of this argument?

(b) Can a reduction in currency held with the public cause a decline in economic activity in an economy like that of India? Explain your answer.

(c) Critically examine the argument that a fiscal deficit necessarily has the effect of crowding out private investment in a closed economy.

(d) Can a service dominated growth process solve India's employment problem?

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Question 1

Okun's Law states that the percentage change in real GDP is proportional to

A. change in the unemployment rate

B. change in the consumer price inflation rate

C. change in the wholesale price inflation rate

D. change in the investment rate

Question 2

In July 2017, Aamir bought a one-year-old house in Mumbai for $P50$ crores. Which of the following statements is true?

A. The purchase price of the house is accounted for in the nominal GDP for $2017-18$

B. The purchase price of the house is accounted for in the aggregate investment expenditure for $2017-18$

C. The purchase price of the house is accounted for in the aggregate consumption expenditure for $2017-18$

D. None of the above

Question 3

A real estate company begins construction of a commercial building in July 2015 for sale but, at the end of the financial year (FY) $2015-16$ is only able to complete a part of the building. It completes the building in FY $2016-17$ but, is able to sell it only in FY $2017-18$. Which of the following statements is true?

A. A part or whole of the cost of construction of the building is accounted for on the expenditure side of the national accounts only in the year $2016-17$

B. A part or whole of the cost of construction of the building is accounted for on the expenditure side of the national accounts only in the years $2015-16$ and $2016-17$

C. A part or whole of the cost of construction of the building is accounted for on the expenditure side of the national accounts only in the year $2017-18$

D. A part or whole of the cost of construction of the building is accounted for on the expenditure side of the national accounts in the years $2015-16$, $2016-17$ and $2017-18$

Question 4

What is the maximum value which can be attained by the ratio of the employment rate to the unemployment rate in an economy?

A. There is no maximum value for the ratio

B. 40

C. 20

D. 2

Question 5

A Cobb-Douglas production function with inputs capital and labor is homogeneous of degree 1 and has output elasticity of capital equal to 0.4. If the marginal product of labor is 15 at a value of the capital labor ratio equal to 20,what is the average product of labor at the same value of the capital-labor ratio?

A. 37.5

B. 100/3

C. 25

D. 50

Question 6

Suppose the stock of money in the economy is growing faster than aggregate nominal income in an economy. Which of the following statements is necessarily true?

A. The rate of inflation must be higher than the rate of growth of real output

B. The income velocity of money must be decreasing

C. The stock of real balances must be increasing

D. The economy is suffering from a deficiency of effective demand

Question 7

The Solow growth model implies that, if the labor force of a country is a constant fraction of its population, ceteris paribus

A. an increase in the growth rate of the labor force has a positive effect on the growth rate of per capita income in the long run

B. an increase in the growth rate of the labor force has a negative effect on the growth rate of per capita income in the long run

C. an increase in the growth rate of the labor force has no effect on the growth rate of per capita income in the long run

D. an increase in the growth rate of the labor force sometimes has a positive effect and sometimes a negative effect on the growth rate of per capita income in the long run

Question 8

What is the main instrument of monetary policy used by the Reserve Bank of India?

A. CRR

B. Quantity of Non-Borrowed Reserves

C. SLR

D. Repo Rate

Question 9

Consider the IS-LM model. Suppose the LM curve is positively sloped. Planned investment expenditure is exogenously given. Saving is simply an increasing function of aggregate income. There always exists a level of income at which saving is equal to investment. Assume that there is no government expenditure and net exports are zero. Which of the following statements is necessarily true?

A. The IS curve for the economy is a horizontal straight line

B. Changes in the quantity of money have no effect on the equilibrium level of income

C. Changes in autonomous expenditures have no effect on the equilibrium interest rate

D. None of the above

Question 10

The theoretical result that once-for-all changes in the supply of money in an economy affect nominal variables but, do not have any effect on real macroeconomic variables including real output is known as

A. the purchasing power parity doctrine

B. the neutrality of money

C. the policy ineffectiveness proposition

D. the Fisher effect

Question 11

Three random variables y, w and u are linked by the following relationship:

$$y = 2w + 4u$$

It is known that var(w), the variance of w, is 5 . It is also known that cov(w, u), the covariance of w and u, is 1. What is the covariance of w and y ?

A. 14

B. 9

C. Cannot be computed from the information given

D. None of the above

Question 12

Random variable X is uniformly distributed on the interval $(-4, 4)$. Let $Y = X^2$. What is the probability that random variable Y has a realization less than 2 ?

A. $\sqrt{2}/4$

B. $1/2$

C. $\sqrt{2}$

D. 0

Question 13

In a class, there are 5 boys and 5 girls. 4 students are selected at random. The probability that 2 boys and 2 girls are sclected is

A. 0.5

B. 0.4

C. 10/21

D. None of the above

Question 14

A and B are events. $P(A)$, the probability of event A, is strictly greater than 0. $P(B)$, the probability of event B, is strictly greater than 0. $P(A \mid B)$ is the probability of A given B. $P(B \mid A)$ is the probability of B given A. It is known that $P(A \mid B) < P(A)$. Which of the following statements is necessarily true?

A. $P(B \mid A) < P(A)$

B. $P(B \mid A) < P(B)$

C. $P(B \mid A) \geq P(B)$

D. None of the above

Question 15

A and B are events. A^C is the complement of A.B^C is the complement of B. $P(A)$, the probability of event A, is 0.60. $P(B)$, the probability of event B, is 0.3. Also, $P(A \cup B)$, the probability of event $A \cup B$, is 0.75. Which of the following statements is true?

A. $P(A \cap B) = 0.25$

B. $P\left(A^C \cap B^C\right) = 0.25$

C. $P\left(A^C \cup B^C\right) = 0.25$

D. None of the above

Question 16

The domain of $f(x) = 2 \times \log|x - 2|$ is given by the interval

A. $(-\infty, 2) \cup (2, +\infty)$

B. $(-2, +\infty)$

C. $[2, +\infty)$

D. $(-\infty, +\infty)$

Question 17

Suppose x and y are positive integers with $x > y$. Now suppose $3x + 2y$ and $2x + 3y$ when divided by 5, leave remainders 3 and 2 respectively. It follows that when $x - y$ is divided by 5, the remainder necessarily equals

A. 1

B. 2

C. 3

D. 4

Question 18

For $n > 1$, consider the following two numbers : (i) $\left[\frac{n+7}{3} + \frac{n-3}{4}\right]$ (ii) $\left[\frac{7n+19}{7}\right]$ State which one of the following statements is true.

A. (i) is greater than (ii)

B. (i) is less than (ii)

C. (i) is equal to (ii)

D. The relationship between (i) and (ii) cannot be determined from the information given

Question 19

V can take any value (positive, negative or zero). U is a function of V. Which of the following functions is / are monotonic transformation(s) of V ? (i) $u = 2v - 13$ (ii) $u = e^{-v} + v^2$ (iii) $u = v^2$

A. (i), (ii) and (iii)

B. (i) only

C. (ii) only

D. (iii) only

Question 20

A student studying the weather for x days observed that (i) it rained on 7 days, morning or afternoon; (ii) when it rained in the afternoon, it was clear in the morning; (iii) there were five clear afternoons; and (iv) there were six clear mornings. Then x equals

A. 7

B. 11

C. 10

D. 9

Answer Question Nos. 21, 22 and 23 on the basis of the following : A random variable X has the following probability density function :

$$f(x) = e^{-x} \text{ for } 0 < x < \infty$$
$$f(x) = 0 \text{ for } x \leq 0$$

Question 21

Probability $(X > 1)$ is equal to

A. $1/e$

B. $1 - 1/e$

C. e^{-2}

D. None of the above

Question 22

Probability $(1 < X < 2)$ is equal to

A. $1/e$

B. $1 - 1/e$

C. $(1/e) \times (1 - 1/e)$

D. None of the above

Question 23

The mean of X is equal to

A. $1/e$

B. 1

C. e

D. None of the above

Question 24

Let $y = f(x)$, where $x \in [a, b]$ and $b > a$, be a continuously differentiable function. Suppose $f(x)$ attains maximum at $x = x^*$. Then it is always true that

A. $f'(x^*) = 0$

B. $f''(x^*) < 0$

C. $f'(x^*) = 0$ and $f''(x^*) < 0$

D. Cannot say

Question 25

Four statements are given below regarding elements and subsets of the following set: $S = \{1, 2, \{1, 2, 3\}\}$ Only one of these statements is correct. Which one is it?

A. $\{1, 2\} \in S$

B. $\{1, 2\} \subseteq S$

C. $\{1, 2, 3\} \subseteq S$

D. $3 \in S$

Question 26

Let $x_1, x_2, \cdots, x_{100}$ be positive integers such that $x_i + x_{i+1} = k$ for all i and k is a constant. If $x_{10} = 1$, then the value of x_1 is

A. k

B. $k - 1$

C. $k + 1$

D. 1

Question 27

A salesman sold two pipes at 12 each. His profit on one was 20% and the loss on the other was 20%. Then on the whole, he

A. lost 1

B. gained 1

C. neither gained nor lost

D. lost 2

Question 28

If the short-run average cost curve for a firm is a decreasing function of its output over a certain range, then in that range we must have

A. the firm's marginal cost curve must also be decreasing

B. the marginal cost curve will lie below the average cost curve, assuming that output is plotted on the horizontal axis and the costs are on the vertical axis

C. the location of the marginal cost curve is uncertain since it depends on whether the firm is a competitive one or not

D. the marginal cost curve will lie above the average cost curve, assuming that output is plotted on the horizontal axis and the costs are on the vertical axis

Question 29

Let $S = 1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \cdots$. Then S is equal to

A. 2

B. 4

C. 6

D. The sum does not converge to any finite value

Question 30

What is the probability of a 4 turning up at least once in two tosses of a fair die?

A. 11/36

B. 1/9

C. 1/12

D. 1/4

Question 31

A cake has to be distributed between two persons A and B. Among the following, which one is not an efficient distribution of the cake (under the standard assumption that more is better' for any person)?

A. A gets the whole cake

B. B gets the whole cake

C. A gets 0.45 and B gets 0.55 portion of the cake

D. A gets 0.45 and B gets 0.45 portion of the cake

Question 32

In an election, 10% of the voters on the voters' list did not cast their votes and 60 voters cast their ballot papers blank. There were only two candidates. The winner was supported by 47% of all voters in the list and he got 308 votes more than his rival. The number of voters on the list was

A. 3600

B. 6200

C. 4575

D. 6028

Question 33

A, B and C are three commodities. A packet containing 5 pieces of A, 3 of B and 7 of C costs \$42. A packet containing 2,1 and 3 of A, B and C respectively, costs P 17. The cost of a packet containing 16,9 and 23 items of A, B and C respectively, is

A. 55

B. 75

C. 135

D. Cannot be determined from the above information

Question 34

A worker suffers a 20% cut in wages. He regains his original pay by obtaining a raise of

A. 20%

B. $22 \cdot 25\%$

C. 25%

D. Cannot be determined from the above information

Question 35

S is the set whose elements are zero and all even integers, positive and negative. Consider the five operations (i) addition; (ii) subtraction; (iii) multiplication; (iv) division; and (v) finding the arithmetic mean. Which of these operations when applied to any pair of elements of S, yield only elements of S ?

A. (i), (ii), (iii), (iv)

B. (i), (ii), (iii), (v)

C. (i), (iii), (iv)

D. (i), (ii), (iii)

Answer Question Nos. 36,37 and 38 on the basis of the following: In an economy, the agriculture, industrial and services sectors have initial shares of 50,20 and 30 percent respectively in the total GDP. They also subsequently grow at the following constant annual rates for the next 60 years : Agriculture-2 percent; Industry-5 percent; and Services -6 percent per annum respectively.

Question 36

Then the annual growth rate of the economy's aggregate GDP over the sixty years will be

A. constant from year to year

B. fluctuating from year to year

C. increasing steadily every year

D. coming down steadily every year

Question 37

The industrial sector's share in GDP over the sixty years

A. will keep on increasing every year

B. will increase for the first twenty years and then start declining

C. will certainly increase for the first forty years though start declining soon after

D. will remain constant

Question 38

Starting from the base year, when will the services sector's share in GDP exceed that of agriculture?

A. Within the first 15 years

B. Not before 15 years but not later than 25 years

C. Not before 25 years

D. Never

Question 39

In an economy tending to produce below its maximum potential output in a year, the government steps up its expenditure by 10 percent but leaves all tax rates unchanged. Which of the following consequences of this would necessarily follow?

A. The fiscal deficit will necessarily increase by exactly the same amount as the increase in expenditure

B. If the fiscal deficit was otherwise going to be 5 percent of GDP in the absence of the stepping up of expenditure, it would increase to 5.5 percent

C. If the government expenditure to GDP ratio was otherwise going to be 25 percent of GDP in the absence of the stepping up of expenditure, it would increase to 27.5 percent

D. None of the above

Question 40

In an economy with no indirect taxes or subsidies, the gross value added by all production units in a year is \$10,000 crores. 1,000 crores of this is in foreign owned firms, which repatriate 10 percent of this value added to their home countries. The only other transactions with the rest of the world are exports of 2,000 crores and imports of 2,500 crores. Then the GDP at market prices of the economy would be

A. 10,000 crores

B. 9,000 crores

C. 99,000 crores

D. 9,500 crores

Question 41

Suppose in an economy $p_t = p_i^e + 0.01 - 0 \cdot 2u_t$ and $p_t^e = 0.75p_{t-1}$, where p_t is the rate of inflation in period t, p_t^e is the expected rate of inflation in period t and u_t is the rate of unemployment in period $t(t = 1, 2, 3, \cdots)$. Suppose in period 1 expectations regarding inflation are realized and the unemployment rate in the economy remains constant from period 1 onwards. Answer the following questions :

(a) What is the value of the inflation rate in period 3 if $p_0 = 0.128$?

(b) What happens to the value of the inflation rate as $t \longrightarrow \infty$?

(c) For what value of the inflation rate in period 0 , will the inflation rate in the economy remain constant from period 2 onwards?

Question 42

Consider and economy in which $C = 225 - 10R + 0.85(Y - T); I = 1610 - 30r; G = 1650; X = 1400; M = 700 + 0.08Y$ and $T = 100 + 0.2Y$ where Y: aggregate income, C : aggregate consumption expenditure, I : aggregate investment expenditure, G : government expenditure on goods and services, X : exports, M : imports, T : tax revenues and r : rate of interest (expressed in percent). economy

(a) What is the slope of the IS curve for this economy?

(b) Assuming that the value of (Y, r) in the economy lies on the IS curve, what is budget deficit of the government when the rate of interest is 3 percent?

Question 43

Suppose we have a Cobb-Douglas production function given by $f(x, y) = x^{0.5}y^{0.5}$. Evaluate the technical rate of substitution for this production function at $x = y = k$.

Question 44

In a two-good world, a consumer's utility function is given by $U(x, y) = x + y$. Now suppose the price of good x is 2 and price of good y is also 2 . The consumer has an supplain income of 100. What are the utility maximizing consumption. Explain your answer carefully.

Question 45

Let the probability density function of the random variable X be as follows : (i) $f(x) = c\left(4x - 2x^2\right)$, if $0 < x < 2$ and (ii) $f(x) = 0$ otherwise. What is the value of $f(1)$? (Note that your answer should not be in terms of c)

Question 46

Consider a gambling game where you have to throw two fair dice simultaneously. You would gain 2 for any even number that shows up, and lose 1 for any odd number that shows up. What is your expected gain or loss from the game?

Question 47

Let $D = a^2 + b^2 + c^2$, where a and b are successive positive integers and $c = ab$. Prove that $\sqrt{D}$ is an odd positive integer.

Question 48

Consider the following optimization problem : Maximize $f(x, y) = x^2 - y^2$ subject to $g(x, y) = 1 - x - y = 0$ Find solution to this problem (if any).

Question 49

Compute the value of $\int_1^2 (\log x)dx$, where $\log x$ in the natural logarithm of x. It is known that $\log 2 = 0 \cdot 693$

Question 50

Answer any one of the following in not more than 500 words:

(a) Does Ricardo's theory of comparative advantage provide an adequate basis for trade liberalization?

(b) How did Raul Prebisch and Hans Singer explain the iniquitous relationship that developing countries faced in world trade and how, in their view, could the developing countries reverse the trend?

(c) What policy options are left for a closed economy stuck in a liquidity trap? Explain

(d) What shape does the LM curve take when the central bank fixes the interest rate instead of the money supply? How does monetary policy work in such an economy?

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Question 1

Match the items given in List −B with those in List −A : List - A I. Innovation II. Organic composition of capital III. Sustainable Development IV. Vicious circle of poverty List - B 1. Karl Marx 2. Brundtland Report 3. Schumpeter 4. Ragner Nurkse

A. 4231

B. 3124

C. 1342

D. 2413

Question 2

Match the items given in List −B with those in List −A : List −A I. A double Kaldor-Hicks Test II. Compensation Principle III. Social Welfare Function IV. Impossibility theorem List −B 1. A. Bergson 2. K.J. Arrow 3. T. Scitovsky 4. Kaldor-Hicks The correct matching is:

A. 4132

B. 3412

C. 3421

D. 4321

Question 3

With reference to Small Banks and Payment Banks, consider the following statements: I. While both can accept deposits Payment Banks cannot issue debit cards. II. While both are required to maintain CRR, Small Banks are also required to maintain SLR and PSL requirements. III. Both have the same initial minimum capital requirement of Rs. 100crs. Which of the statements given above is/are correct?

A. I only

B. I and II only

C. II and III only

D. All

Question 4

Consider the following statements regarding components of "double financial repression". I. Statutory liquidity ratio (SLR) and Priority sector lending (PSL) requirements are a repression on the asset side. II. Rising Non-Performing Assets (NPAs) and reduction in household's financial savings are a repression on the liability side. Which of the statements given above is/are correct?

A. I only

B. II only

C. Both

D. Neither

Question 5

With reference to Green Bonds in India consider the following statements: I. Green bond is a debt instrument issued for renewable as well as non-renewable energy projects. II. Both public and private sector banks can issue such bonds. III. It is a low-risk bond as repayment is tied to the issuer rather than success of the project. Which of the statements given above is/are correct?

A. I and II only

B. I and III only

C. III only

D. None

Question 6

With reference to negative income tax, consider the following statements: I. Negative income tax is the money paid by government to citizens who earn below a certain prescribed limit. II. It allows the claimants to receive income through simple filing of tax returns. III. It may reduce the demand for welfare benefits. Which of the statements given above is/are correct?

A. I and II only

B. I and III only

C. II and III only

D. All

Question 7

Consider the following statements: I. The income method of GDP calculation considers incomes received by factors of production only. II. The income method of GDP calculation provides a lower value of GDP than expenditure method for the same year. Which of the statements given above is/are correct?

A. I only

B. II only

C. Both

D. None

Question 8

Priority sector lending by banks in India favorably consider lending to which of the following sectors? I. Renewable Energy II. Education III. Housing IV. Social Infrastructure Which of the 4 options given above are correct?

A. I and IV only

B. I, II and III only

C. I, II and IV only

D. All

Question 9

With reference to Quantitative Easing, which among the following statements is/are correct? I. It is a monetary policy in which the central bank sells government securities. II. It is adopted to lower the interest rates and increase the money supply. III. It can lead to higher rates of inflation. Choose the correct answer from:

A. only I and II

B. only III

C. only II and III

D. All

Question 10

With reference to money markets consider the following statements: I. Call money refers to borrowing/lending of funds on overnight basis. II. Notice Money refers to borrowing/lending of funds for period exceeding 14 days. Which of the statements given above is/are correct?

A. I only

B. II only

C. Both

D. Neither

Question 11

Which of the following would have inflationary effect on the economy? I. RBI releasing new bonds in the market II. RBI decreasing the SLR III. RBI increasing the Bank Rate IV. Abolition of CRR Choose the correct answer:

A. I, II and III only

B. I and IV only

C. II and IV only

D. III and IV only

Question 12

Which of the following is/are examples of capital expenditure by the government? I. Loan repayment II. Interest payment on loan III. Infrastructure Select the correct answer:

A. I only

B. I and III only

C. II and III only

D. All

Question 13

Which of the following statements is/are correct regarding Monetary Transmission? I. It refers to the process by which a central bank's monetary policy decisions are passed

on to the financial markets. II. Rising Non-Performing Assets (NPAs) and higher returns on small savings schemes may hinder effective monetary transmission. III. Lowering of CRR and SLR requirements may help ensure effective monetary transmission. Select the correct answer:

A. I and III only
B. II and III only
C. I and II only
D. All

Question 14

With reference to Revenue Deficit consider the following statements: I. It includes only those transactions that affect current income and expenditure of government. II. It implies actual loss of revenue. III. As per the FRBM Act, the government is required to reduce the revenue deficit to 3% of the GDP. Which of the statements given above is/are correct?

A. I only
B. I and II only
C. II and III only
D. I, II and III

Question 15

With whom the concept of disembodied technical change is associated with: I. Abramovitz II. Kaldor III. Kendrick IV. Solow

A. I and II
B. III and IV
C. I, III and IV
D. II, III and IV

Question 16

Assertion (I): Solow model is a major improvement over Harrod-Domar Model. Reason (II): Solow built a model of long run growth without the assumption of fixed proportions in production. Which of the following is correct?

A. (I) is correct, but (II) is not the correct reason of (I).
B. (I) is not correct, but (II) is correct.
C. Both (I) and (II) are correct.
D. Both (I) and (II) are incorrect.

Question 17

Which of the following are the functions of Finance Commissions in India? I. To make recommendations on the distribution of tax proceeds between Centre and the States. II. To make recommendations on levying, removing or restructuring of taxes. III. To recommend grants-in-aid under Article 275 of the Constitution. IV. To recommend plan and other grants under Article 282 of the Constitution.

A. I and II only

B. I and III only

C. I, III and IV only

D. All

Question 18

The sources of auto correlation among the following are: I. Omitted explanatory variables II. Interpolation in the statistical observation III. Mis-specification of the true random term ' v ' IV. Economic variables to move together over time

A. I and II only

B. I, II and III only

C. I, III and IV only

D. All of the above

Question 19

Arrange the following acts in the order in which they came into force: I. Competition Act II. Foreign Exchange Management Act III. Consumer Protection Act IV. The Factories Act Choose the answer from the following:

A. II, I, IV, III

B. IV, II, III, I

C. IV, III, II, I

D. 3, 4, 2, 1

Question 20

Consider the following statements in relation to Gender Budgeting: I. 'Gender analysis' of the government's budget II. Preparing a separate budget for women III. Government of India adopted gender budgeting in 2005 – 06 Choose the correct one from the options given below:

A. I, II are correct

B. I, III are correct

C. II, III are correct

D. All are correct

Question 21

Consider the following statements about optimal tariff: I. The beneficiary country is a large country in the world market for a particular good. II. A deviation from optimal tariff will lead to a fall in welfare. Of the above, which statement is correct?

A. Both

B. Neither

C. Only I is correct

D. Only II is correct

Question 22

Assertion (I): Friedman argues that money demand function is a stable function. Reasons (II): Friedman treats money as one type of asset in which wealth holders can keep a part of their wealth. Choose the correct answer from the options give below:

A. Both (I) and (II) are true and (II) is the correct explanation of (I).

B. Both (I) and (II) are true, but (II) is not the correct explanation of (I).

C. (I) is true, but (II) is false.

D. (I) is false, but (II) is true.

Question 23

Improvement in the BOP deficit may be effected through: I. Import control II. Export promotion III. Foreign exchange control IV. Devaluation Choose the correct option from those given below:

A. I and II are correct.

B. I, II, III and IV are correct.

C. II and III are correct.

D. I, II and III are correct.

Question 24

The doctrine of unbalanced growth was propounded by: I. Hirschman II. Robert Solow III. Singer IV. Ragnar Nurkse Choose the correct option from those given below:

A. I and II are correct.

B. II and III are correct.

C. III and IV are correct.

D. I and III are correct.

Question 25

In the Keynesian macroeconomic system, speculative demand for money arises because of: I. Uncertainty regarding future interest rates II. Unexpected expenditures III. To bridge the gap between income and eventual expenditure IV. Relationship between changes in the interest rates and bond prices Choose the correct option from those given below:

A. I and III are correct.

B. I and IV are correct.

C. II and III are correct.

D. III and IV are correct.

Question 26

For good X, the supply curve is the typical upward-sloping straight line, and the demand curve is the typical downward-sloping straight line. A tax of $15 per unit is imposed on good X. The tax reduces the equilibrium quantity in the market by 300 units. The deadweight loss from the tax is:

A. $1,750.

B. $2,250.

C. $3,000.

D. $4,500.

Question 27

In the market for widgets, the supply curve is the typical upward-sloping straight line, and the demand curve is the typical downward-sloping straight line. The equilibrium quantity in the market for widgets is 200 per month when there is no tax. Then a tax of $5 per widget is imposed. The price paid by buyers increases by $2 and the after-tax price received by sellers falls by $3. The government can raise $750 per month in revenue from the tax. The deadweight loss from the tax is:

A. $250.

B. $125.

C. $75.

D. $50

Question 28

Fred has recently graduated from college with a degree in joumalism and economics. He has decided to pursue a career as a freelance joumalist writing for business newspapers and magazines. Fred is typically awake for 112 hours each week (he sleeps an average of 8 hours each day). For each hour Fred spends writing, he can earn $75. Fred is such a good writer that he can get paid for as many hours of writing as he chooses to work. If Fred decides to spend 80 hours a week playing volleyball on the beach and the rest of his time writing, how much income will he have available to spend on consumption goods?

A. $900

B. $1,500

C. $2,400

D. $3,000

Question 29

Erin would be willing to pay as much as $100 per week to have her house cleaned. Ernesto's opportunity cost of cleaning Erin's house is $70 per week. If Ernesto cleans Erin's house for $80 Ernesto's producer surplus is:

A. $80.

B. $30

C. $20.

D. $10.

Question 30

Suppose a tax of $5 per unit is imposed on a good, and the tax causes the equilibrium quantity of the good to decrease from 200 units to 100 units. The tax decreases consumer surplus by $450 and decreases producer surplus by $300. The deadweight loss from the tax is:

A. $250.

B. $500.

C. $750.

D. $1,000.

Question 31

A tax of $0.25 is imposed on each bag of potato chips that is sold. The tax decreases producer surplus by $600 per day, generates tax revenue of $1,220 per day, and decreases the equilibrium quantity of potato chips by 120 bags per day. The tax:

A. decreases consumer surplus by $645 per day.

B. decreases the equilibrium quantity from 6,000 bags per day to 5,880 bags per day.

C. decreases total surplus from $3,000 to $1,800 per day.

D. creates a deadweight loss of $15 per day.

Question 32

Andre walks Julia's dog once a day for $50 per week. Julia values this service at $60 per week, while the opportunity cost of Andre's time is $30 per week. The government places a tax of $35 per week on dog walkers. After the tax, what is the total surplus?

A. $50

B. $30

C. $25

D. $0

Question 33

Assume the supply curve for cigars is a typical, upward-sloping straight line, and the demand curve for cigars is a typical, downward-sloping straight line. Suppose the equilibrium quantity in the market for cigars is 1,000 per month when there is no tax. Then a tax of $0.50 per cigar is imposed. The effective price paid by buyers increases from $1.50 to $1.90 and the effective price received by sellers falls from $1.50 to $1.40. The government's tax revenue amounts to $475 per month. Which of the following statements is correct?

A. After the tax is imposed, the equilibrium quantity of cigars is 900 per month.

B. The demand for cigars is more elastic than the supply of cigars.

C. The deadweight loss of the tax is $12.50.

D. The tax causes a decrease in consumer surplus of $380.

Question 34

Assume for Namibia that the opportunity cost of each hut is 200 bowls. Which of these pairs of points could be on Namibia's production possibilities frontier?

A. (200 huts, 30,000 bowls) and (150 huts, 35,000 bowls)

B. (200 huts, 40,000 bowls) and (150 huts, 30,000 bowls)

C. (300 huts, 50,000 bowl) and (200 huts, 60,000 bowls)

D. (300 huts, 60,000 bowls) and (200 huts, 80,000 bowls)

Question 35

Suppose that a worker in Freedonia can produce either 6 units of corn or 2 units of wheat per year, and a worker in Sylvania can produce either 2 units of com or 6 units of wheat per year. Each nation has 10 workers. Without trade, Freedonia produces and consumes 30 units of corn and 10 units of wheat per year. Sylvania produces and consumes 10 units of corn and 30 units of wheat. Suppose that trade is then initiated between the two countries, and Freedonia sends 30 units of corn to Sylvania in exchange for 30 units of wheat. Sylvania will now be able to consume a maximum of:

A. 30 units of corn and 30 units of wheat.

B. 40 units of corn and 30 units of wheat.

C. 40 units of corn and 20 units of wheat.

D. 10 units of corn and 40 units of wheat.

Question 36

The before-trade price of fish in Denmark is $10.00 per pound. The world price of fish is $6.00 per pound. Denmark is a price-taker in the fish market. If Denmark begins to allow trade in fish, its consumers of fish will become:

A. better off, its producers of fish will become better off, and on balance the citizens of Denmark will become better off.

B. worse off, its producers of fish will become better off, and on balance the citizens of Denmark will become worse off.

C. worse off, its producers of fish will become better off, and on balance the citizens of Denmark will become worse off.

D. better off, its producers of fish will become worse off, and on balance the citizens of Denmark will become better off.

Question 37

Jacqui decides to open her own business and earns $\$50,000$ in accounting profit in the first year. When deciding to open her own business, she turned down three separate job offers with annual salaries of $\$30,000$, $\$40,000$, and $\$45,000$. What is Jacqui's economic profit from running her own business?

A. $\$ - 55,000$

B. $\$ - 5,000$

C. $\$5,000$

D. $20,000

Question 38

Jane was a partner at a law firm earning $223,000 per year. She left the firm to open her own law practice. In the first year of business she generated revenues of $347,000 and incurred explicit costs of $163,000. Jane's economic profit from her first year in her own practice is:

A. −$39,000.

B. $124,000.

C. $163,000.

D. $184,000.

Question 39

Suppose a firm in a competitive market produces and sells 150 units of output and earns $1,800 in total revenue from the sales. If the firm increases its output to 200 units, the average revenue of the 200 th unit will be

A. less than $12.

B. more than $12.

C. $12.

D. Any of the above may be correct depending on the price elasticity of demand for the product.

Question 40

Laura is a gourmet chef who runs a small catering business in a competitive industry. Laura specializes in making wedding cakes. Laura sells 20 wedding cakes per month. Her monthly total revenue is $5,000. The marginal cost of making a wedding cake is $300. To maximize profits, Laura should

A. make more than 20 wedding cakes per month.

B. make fewer than 20 wedding cakes per month.

C. contimue to make 20 wedding cakes per month.

D. We do not have enough information with which to answer the question.

Question 41

If a monopolist's marginal costs increase by $1 for all levels of output, then the monopoly price will:

A. rise by $1.

B. rise by more than $1.

C. rise by less than $1.

D. not change, but profits will decrease.

Question 42

Suppose when a monopolist produces 75 units its average revenue is $10 per unit, its marginal revenue is $5 per unit, its marginal cost is $6 per unit, and its average total cost is $5 per unit. What can we conclude about this monopolist?

A. The monopolist is currently maximizing profits, and its total profits are $375.

B. The monopolist is currently maximizing profits, and its total profits are $300.

C. The monopolist is not currently maximizing profits, it should produce more units and charge a lower price to maximize profits.

D. The monopolist is not currently maximizing profits, it should produce fewer units and charge a higher price to maximize profits.

Question 43

Consider a profit-maximizing monopoly pricing under the following conditions. The profitmaximizing quantity is 40 units, the profit-maximizing price is $160, and the marginal cost of the 40 th unit is $120. If the good were produced in a perfectly competitive market, the equilibrium quantity would be 50 , and the equilibrium price would be $150. The demand curve and marginal cost curves are linear. What is the value of the deadweight loss created by the monopolist?

A. $40

B. $100

C. $200

D. $400

Question 44

A manager has decided to allocate an operating budget between labor (L) and capital (K) in such a way that the marginal productivity of labor (MPL) =10 units of finely divisible output and the marginal productivity of capital (MPK) = 12 units. If the wage rate (w) is $16, and the rental rate (r) on capital is $18, which of the following statements is most generally correct?

A. The manager should allocate the entire budget to K because it has highest productivity.

B. The manager should allocate the entire budget to L because it is the least-cost input.

C. The manager should reallocate at least a small amount of the budget toward K and away from L.

D. The manager should reallocate at least a small amount of the budget toward L and away from K.

Question 45

Sally has two art projects due tomorrow. She has 5 hours to complete both projects. She plans to spend 3 hours working on the first project and 2 hours working on the second project. She believes that the last minute spent working on the first project will

add 3 points to Project 1 score, and the last minute spent working on the second project will add 20 points to the Project 2 score. Which of the following statements is accurate? Assuming that Sally's goal is to maximize the total number of points, Sally's plan will allocate her

A. time efficiently.

B. Sally would earn a higher point total if she increased the time allocated to Project 1 .

C. Sally would earn a higher point total if she decreased the time allocated to Project 1

D. None of the above

Question 46

Diana uses one input, i.e., labor (L) to produce a product according to the following production function: $Q = f(L) = 2\,L^2$. She pays \$15 per unit of labor. What is the cost of production at the level of 100 units of output?

A. \$15.07

B. \$25.07

C. \$106.07

D. \$150.07

Question 47

Nicole owns a small pottery factory. She can make 1,000 pieces of pottery per year and sell them for 100 each. It costs Nicole $20,000$ for the raw materials to produce the 1,000 pieces of pottery. She has invested $100,000$ in her factory and equipment: $50,000$ from her savings and $50,000$ borrowed at 10 percent interest (assume that she could have loaned her money out at 10 percent too). Nicole can work at a competing pottery factory for $40,000$ per year. The economic profit at Nicole's pottery factory is:

A. $30,000$.

B. $35,000$.

C. $70,000$.

D. $75,000$.

Question 48

Rosie's Flower Shop sells floral arrangements for \$20 each. If Rosie hires 10 workers, she can sell 600 arrangements per week. If she hires 11 workers, she can sell 650 arrangements per week. Rosie pays each of her workers \$400 per week. Which of the following is correct?

A. For the 11th worker, the marginal profit is $\$1,000$.

B. For the 11th worker, the marginal revenue product is $\$1,000$.

C. The firm is maximizing its profit.

D. If the firm is employing 11 workers, then its profit would increase if it cut back to 10 workers.

Question 49

Diane's Auto World installs tires on automobiles, light trucks, and sport utility vehicles. She is a profit-maximizing business owner whose firm operates in a competitive market. The marginal cost of installing a tire is $10. The marginal productivity of the last worker that Diane hired was 2 tires per hour. What is the maximum hourly wage that Diane was willing to pay the last worker hired?

A. $5

B. $10

C. $20

D. There is insufficient information to answer this question.

Question 50

Suppose that eight workers can manufacture 70 radios per day and that nine workers can manufacture 90 radios per day. If radios can be sold for $10 each, the value of marginal product of the ninth worker is:

A. 20 radios.

B. 90 radios.

C. $200.

D. $900.

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Question 1

What will be slope $\left(\frac{dK}{dL}\right)$ of the given Isoquant $4K^{\frac{1}{4}}L^{\frac{3}{4}} = 2000$?

A. $-\frac{3K}{L}$

B. $-\frac{5K}{L}$

C. $+\frac{3K}{L}$

D. $\frac{3}{5K}$

Question 2

For an economy, if $C = 400 + 0.8Y_d$, $Y_d = Y - T$, $T = 300 + 0.2Y$, find MPC.

A. 0.93

B. 0.64

C. 0.81

D. 0.20

Question 3

What will be equilibrium income, when Lump Sum Tax (T) is added to the model and Consumption (C) $b = 0.5$, $I_0 = 40$ and $T = 50$.

A. 274

B. 298

C. 230

D. 653

Question 4

Ms. Sulekha wants to buy two goods namely Samosa and Jalebi when she is having money income Rs.200. The price of Samosa is Rs.10 each and the price of Jalebi is Rs. 4 each. What proportion of income should she allocate on Samosa and Jalebi to maximize utility when the utility function is $\sqrt{X_1 X_2}$ where X_1 and X_2 stands for Samosa and Jalebi respectively.

A. 60% on X_1 and 40% on X_2

B. 50% on X_1 and 50% on X_2

C. 40% on X_1 and 60% on X_2

D. 70% on X_1 and 30% on X_2

Question 5

The demand function for a quantity Q is $Q_d = 35000 - 5P$. Over what range of price, the quantity demanded will be inelastic?

A. 100 to 300

B. 300 to 399

C. 500 to 3900

D. zero to 3500

Question 6

When the price of a pen is Rs.20 and elasticity of demand is 1.6, find the marginal revenue.

A. 1.7

B. 7.5

C. 9.5

D. 3.5

Question 7

The demand function for a good is $Q = 36 - 3P$. What will be theoretically maximum Price (P) for Quantity (Q)?

A. 12

B. 3

C. 10

D. 112

Question 8

The demand function for a good in place is $Q = 24 - 3P$. What will be theoretically maximum quantity (Q) demanded for price (P) ?

A. 33

B. 24

C. 8

D. 28

Question 9

When demand $Q = 300 - 5P$ and supply $Q = 200 + 15P$. If government imposes specific sales tax of Rs.2.00 per unit, what will be new price ?

A. 7.3

B. 6.5

C. 6.9

D. 5.9

Question 10

When Average Variable Cost $AVC = 10 - 5Q + 10Q^2$. What will be output at minimum marginal cost when fixed cost is 50 ?

A. 0.166

B. 0.178

C. 0.23

D. None

Question 11

When the rate of taxation increases with increase in income, then it is :

A. Proportional tax

B. Progressive tax

C. Regressive tax

D. All of the above

Question 12

What is direct tax ?

A. Paid by a person on whom it is imposed

B. Paid by a person on whom it is not imposed

C. Both 1 and 2

D. None

Question 13

When Average Tax Rate (ATR) is more than Marginal Tax Rate (MTR) then it is :

A. Regressive tax

B. Progressive tax

C. Proportional tax

D. Degressive tax

Question 14

When government imposes tax in the case of negative production externality, what will be effect on Consumer Surplus ?

A. Consumer surplus reduces

B. Consumer surplus increases

C. Consumer surplus does not change

D. None of the above

Question 15

When $C = 200 + 0.75(Y - T), I = 200 - 25r, G = 100, T = 100$. Find IS curve function.

A. $Y = 1700 - 100r$

B. $Y = 1800 - 100r$

C. $Y = 1900 - 100r$

D. $Y = 1700 + 100r$

Question 16

Correlation coefficient (r) is significant when :

A. $r > 6$ probable error

B. $r < 6$ probable error

C. $r = 6$ probable error

D. None of these

Question 17

Hirschman takes divergent series of investment as a project that :

A. creates less external economies than they appropriate

B. creates more external economies than they appropriate

C. creates no external economies than they appropriate

D. none

Question 18

A firm should increase investment when :

A. MEC $< i$

B. $MEC = i$

C. $MEC > i$

D. $MEC = 1$

Question 19

When level of income is zero, what will you call the level of consumpt

A. induced consumption

B. minimum

C. related

D. autonomous

Question 20

The slope of the budget line is $(-)0.25$ and income is Rs. 100 for buying two equal goods Samosa and Jalebi. What amount will be spent on Samosa?

A. 30

B. 34

C. 65

D. 20

Question 21

Offer curve introduced by Alfred Marshall deals with :

A. Terms of trade

B. Exchange rate

C. Money Supply

D. Money

Question 22

The degree of price control will be very high in the case of :

A. Imperfect competition

B. Perfect competition

C. Monopoly

D. Monopolistic

Question 23

The minimum rate at which the central bank re-discounts bills held by commercial banks is called :

A. Repo Rate

B. CRR

C. Bank Rate

D. Prime Lending Rate

Question 24

Rostow divided economic growth into stages of :

A. Two

B. Five

C. Four

D. Three

Question 25

Primary deficit means :

A. Fiscal deficit minus interest payment

B. Excess of expenditure over receipts

C. Deficit financed by borrowing externally

D. None

Question 26

Fisher's index is :

A. Harmonic mean of Laspeyre's and Pasche

B. Geometric mean of Laspeyre's and Pasche

C. Arithmetic mean of Laspeyre's and Pasche

D. None

Question 27

A saddle point in the game theory refers to :

A. No loss

B. No profit

C. Outcome of strictly determined game

D. None

Question 28

The long run supply elasticity for constant cost industry will be :

A. More than unity

B. infinity

C. zero

D. none

Question 29

What will be the second order direct partial derivative V_{XX} and V_{yy} respectively for given Cobb-Douglas function $V = 4X^{0.4}Y^{0.5}$?

A. $0.98\left(X^{-1.6}Y^{0.5}\right), -\left(X^{0.4}Y^{-1.7}\right)$

B. $0.96\left(X^{-1.6}Y^{0.5}\right), -\left(X^{0.4}Y^{-1.5}\right)$

C. $0.196\left(X^{-1.6}Y^{1.5}\right), -\left(X^{0.4}Y^{-1.5}\right)$

D. $0.06\left(X^{-3.6}Y^{0.5}\right), -\left(X^{0.4}Y^{-1.5}\right)$

Question 30

What will be the equilibrium income when commodity market (IS) and the money market (LM) are in equilibrium in the case of $C = 102 + 0.7Y, I = 150 - 100i, MS = 470, MT = 0.25Y, MZ = 124 - 200i$?

A. 1100

B. 1300

C. 1900

D. 1000

Question 31

Ms. Sulekha is having income of Rs. 30.00 for consuming two goods Samosa and Jalebi whose prices are Rs.10.00 and Rs.2.00 per piece. What will be Sulekha's total price effect when her utility function is $U = XY$ and the price of Samosa decreased to Rs.5.00 per piece but the price of Jalebi is remaining the same ?

A. $-5/6$

B. $-3/2$

C. $-5/7$

D. None

Question 32

The demand function $Q_d = 35000 - 5P$ and the supply function of a firm Ms.Sulekhs Ltd. is $Q_s = 20000 + 20P$. What will be impact on the quantity demanded and price when government imposes specific sales tax Rs.10.00 per unit and Lump Sum tax Rs.2000.

A. 509

B. 608

C. 1200

D. 609

Question 33

When production function of a firm is $Q = 20K^{0.5}L^{0.5}$, price of capital is Rs.5 per unit and price of labour is Rs.4 per unit. What will be expansion path ratio for the firm ?

A. $K = 0.3L$

B. $K = \frac{39}{4L}$

C. $K = \frac{14}{5L}$

D. $K = 0.8L$

Question 34

Find the private income from given data in Rupees NDP_{FC} = 15400, Net income from abroad = 100, Transfer payment from government = 250, Net donation from abroad = 50, Interest on national debt= 150 , Income to government from domestic product = 150.

A. 15800

B. 18500

C. 24300

D. 16150

Question 35

When interest rate is very low and LM curve becomes horizontal straight line, then this situation is known as:

A. Liquidity ratio

B. Liquidity trap

C. Giffen curve

D. Debt trap

Question 36

We consider Fisher's index as an ideal index because it satisfies

A. Time reversal test

B. Factor reversal test

C. Both time and factor reversal test

D. None

Question 37

If the demand function of a commodity X is $X = 200 - 0.5P$, what will be demand elasticity at a price of Rs.5 ?

A. 0.097

B. 0.052

C. 0.062

D. None

Question 38

When $C = 20 + 0.5Y$, $I = 50$, $G = 10$, find the national income.

A. 160

B. 170

C. 140

D. 150

Question 39

What will happen when supply elasticity is less than demand elasticity ?

A. Consumer burden will be less than producer burden

B. Consumer burden will be more than producer burden

C. Both will be equal

D. None

Question 40

Which policy is more effective in the Keynesian range of LM curve ?

A. Fiscal

B. Monetary

C. Both Fiscal and Monetary

D. Neither Fiscal nor Monetary

Question 41

In a box containing 100 bulbs, 10 are defective. What is the probability that out of sample of 5 bulbs none is defective ?

A. $\frac{1}{10}$

B. $\frac{1}{4}$

C. $\left(\frac{9}{10}\right)^5$

D. None

Question 42

During the Covid pandemic we observed the fall in the salary of 10 males of a given locality are found to be 70, 50, 62, 68, 61, 68, 70, 33, 64, 40 in thousands. Is it reasonable to believe that the average salary is greater than 64 in thousand ? To test at 5% significance level to make the decision or conclusion about the hypothesis we will use the following:

A. Use one sided hypothesis, tabulated value of "t" should be less than calculated value.

B. Use two sided hypothesis, tabulated value of "t" should be less than calculated value.

C. Use one sided hypothesis, tabulated value of "t" should be greater than calculated value.

D. Use two sided hypothesis, tabulated value of "t" should be greater than calculated value.

Question 43

The sequence,

$$S_n = 1 + \frac{1}{2^2} + \frac{1}{3^3} + \cdots + \frac{1}{n^n} \quad \forall n \in \mathbb{N}$$

is:

A. Oscillating

B. Convergent

C. Divergent

D. none of the above

Question 44

If two lines of regression are perpendicular to each other, then the relation between the regression coefficients is :

A. $\beta_{x,y} = \beta_{y,x}$

B. $\beta_{x,y} \times \beta_{y,x} = 1$

C. $\beta_{x,y} + \beta_{y,x} = 1$

D. $\beta_{x,y} + \beta_{y,x} = 0$

Question 45

Calculate area under the curve $xy = 1, x = 1$ to $x = e$.

A. 1 unit

B. 2 units

C. e unit

D. 0 unit

Question 46

If equation of lines $4x - ky = 6$ and $6x + 3y + 2 = 0$ are perpendicular then k = ?

A. 2

B. 4

C. 6

D. 8

Question 47

The probability that a 3-card hand drawn at random and without replacement from an ordinary deck consists entirely of red cards is :

A. $\frac{9}{17}$

B. $\frac{3}{17}$

C. $\frac{2}{17}$

D. $\frac{4}{17}$

Question 48

If $X \sim N\left(30, 5^2\right)$ then which one of the following is correct ?

A. $P(X \geq 30) = 0.5$

B. $P(X \leq 0) = P(X \geq 0)$

C. $P(|X| \leq 1) = P(|X| \geq 1)$

D. $P(30 \leq X \leq 40) = P(20 \leq X \leq 30)$

Question 49

Let X be distributed with pdf $f(x) = \begin{cases} 1 & 0 < x < 1 \\ 0 & \text{otherwise} \end{cases}$ .Then find the EX, EX^2 and $\text{Var}(X)$.

A. $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}$

B. $\frac{1}{2}, \frac{1}{3}, \frac{1}{12}$

C. $\frac{1}{2}, \frac{1}{4}, \frac{1}{4}$

D. $\frac{1}{2}, \frac{1}{4}, \frac{1}{12}$

Question 50

Let $\delta > 0$ be a constant and $f(x) = \begin{cases} \delta(1-x) & 0 < x < 1 \\ 0 & \text{otherwise} \end{cases}$

A. 1

B. 0.234

C. 2

D. 0.784

JNU SSS 2021

Question 1

When IS = $1850 - 100r$, LM = $1000 + 200r$, find equilibrium income.

A. 1567

B. 1667

C. 1767

D. 1845

Question 2

Multiple co-efficient of determination (R^2) measures the

A. Homoscedasticity of multiple regression model

B. Multicollinearity of multiple regression model

C. Heteroscedasticity of multiple regression model

D. Goodness of fit of multiple regression model

Question 3

When MPC = 1/4, change in the government expenditure (ΔG) = 1, find change in consumption

A. 1/3

B. 1/5

C. 1/8

D. 0

Question 4

In a moderately symmetrical distribution, mean, median and mode are connected by

A. Mode = 2 median-3 mean

B. Mode = 3 median-4 mean

C. Mode = 3 median-2 mean

D. Mode = 2 median-4 mean

Question 5

Arrange the following state, in ascending order of total fertility rate, in per cent, in the year 2018:

A. Bihar; Uttar Pradesh; Madhya Pradesh; Kerala

B. Uttar Pradesh; Madhya Pradesh; Bihar; Kerala

C. Kerala; Madhya Pradesh; Uttar Pradesh; Bihar

D. Bihar; Kerala; Uttar Pradesh; Madhya Pradesh

Question 6

When Lorenz function $f(X) = X^{3.3}$, find Gini coefficient.

A. 53.48

B. 56.18

C. 23.18

D. 11.11

Question 7

A linear regression model is

A. Linear in parameters and may not be linear in variables

B. Non-linear in parameters and may not be linear in variables, Option

C. Linear in explanatory variables and may not be linear in parameters,

D. Linear parameters and must be linear in variables

Question 8

When average tax rate $(ATR) = 1/3$, Marginal rate of tax $(MRT) = 1/5$, what type of tax is it?

A. Regressive

B. Progressive

C. Both

D. NEGATIVE

Question 9

When $MC = 10 + 0.4X, MR = 30 - 0.6X$, damage borne by society is 10, find the producer loss when the government interferes the externality.

A. 60

B. 200

C. 300

D. 1100

Question 10

Homoscedasticity refers to the error term having

A. Positive variance

B. Positive mean

C. Zero mean

D. Constant variance

Question 11

The domestic demand function (D) of petrol in Uttar Pradesh is 1000 - 5P and Supply (S) function is $500 + 10P$. The domestic demand (D) of petrol in Iran is 1200-20P and domestic supply $(S) = 1500 + 15P$. What will be price of petrol when Uttar Pradesh imports from Iran?

A. 4

B. 5

C. 8

D. 9

Question 12

When Cobb-Douglas production function is Q = A$\mathbf{L}^{0.5}\mathbf{K}^{0.5}$ what will be total production when total factor productivity is 8, $L = 25, K = 64$.

A. 340

B. 320

C. 623

D. 420

Question 13

When consumption function is $C = 15 + 0.5Y_d$ and investment function is $I = 150 - 10r, G = 20 = T$, find equation for IS curve.

A. Y=350-20r

B. Y= 440 -40r

C. Y=350-40r

D. Y= 470 -40r

Question 14

When change in the government expenditure $(\Delta G) = 2$, change in the tax $(\Delta T) = 2$, what will be impact of fiscal policy on change of consumption (Δ C)?

A. 0

B. 1

C. 2

D. 3

Question 15

The algebraic sum of deviation of a set of **n** values from their mean is

A. 0

B. n-1

C. n

D. n+1

Question 16

Cobb -Douglas production function is $Q = AL^{1/2}K^{1/2}$. When growth rates are 1%, 2% and 3% respectively for technology, labour and capital, find the growth rate in the economy when output is Q.

A. 3.70%

B. 3.50%

C. 6.20%

D. 5.40%

Question 17

When comparing $\mathbf{r}^2$ of two regression models, the model should have same

A. Error term

B. Explanatory variables

C. Explained variables

D. Explanatory variables and Explained variables both

Question 18

The p-value and significance in research papers is sufficient to assess the relation between two variables?

A. False

B. True

C. Not enough information

D. Minimising law

Question 19

What do you think about the research objective should define the variables?

A. Yes, variable can define

B. No, variable cant defines

C. Variables are not important in the research

D. Yes and no

Question 20

What is the degree of freedom for given test statistic $\frac{|\bar{x}-\bar{v}|}{\left(\sigma\sqrt{\frac{1}{n_1}+\frac{1}{n_2}}\right)}$ to test the H_0 for means.

A. $n_1 + n_2 - 2$

B. $n_1 + n_2 - 1$

C. $n_1 - 1$

D. $n_2 - 2$

Question 21

The standard deviation calculated from two values X_1 and X_2 of a variable X is equal to

A. $1/3^{\text{rd}}$ of their difference

B. $1/2$ of their difference

C. Square root of their difference

D. 1/4 of their difference

Question 22

In the regression equation $Y_i = \beta_1 + \beta_2 X_i + u_i$ the mean value of u_i conditional upon the given X_i is

A. Positive values

B. Equal to zero

C. Negative values

D. 5

Question 23

What is the number of degrees of freedom for a simple bivariate linear regression with ' n ' observations?

A. n

B. n-1

C. n-2

D. None of the above

Question 24

Kinked isoquant reflects

A. Strict complementarity between L (labour) and K (capital)

B. Continuous substitutability of K and L

C. Perfect substitutability of K and L

D. Limited substitutability of K and L

Question 25

Arrange the following Indian states, in descending order of Child Sex Ration (0-6 Years) in the Year 2011:

A. Punjab; Chhattisgarh; Gujarat; Haryana

B. Gujarat; Punjab; Haryana; Chhattisgarh

C. Chhattisgarh; Gujarat; Punjab; Haryana

D. Haryana; Chhattisgarh; Gujarat; Punjab

Question 26

In a closed economy with unutilized capacity, if the investment rate remains unchanged and savings amount to 20 percent of GDP, an increase in the government's fiscal deficit by 100 units will cause economic activity to increase by

A. 00 units

B. 120 units

C. 200 units

D. 500 units

Question 27

The variance of 15 observations is 4 . If each observation is increased by 9 , the variance of resulting observations is

A. 2

B. 5

C. 4

D. 7

Question 28

If the aggregate currency with the public reduces and total demand deposits increase by exactly the same amount, the aggregate money supply in the economy would

A. Go up

B. Come down

C. Remain unchanged

D. Go up and come down

Question 29

If a quantitative variable has ' m ' categories, we can introduce

A. $m + 1$ dummy variables

B. m dummy variables

C. m-1 dummy variables

D. $m + 2$ dummy variables

Question 30

When $MC = 10 + 0.4X, MR = 30 - 0.6X$, damage borne by society is 10 in the case of externality, find the dead weight loss (DWL).

A. 50

B. 60

C. 40

D. 80

Question 31

To the right of IS (Goods Market Equilibrium) and left of LM (Money Market Equilibrium) there is

A. Excess supply of money and excess supply of goods

B. Excess supply of money and excess demand of goods

C. Excess demand of money and excess supply of goods

D. Excess demand of money and excess demand of goods

Question 32

What is not true about the systematic review (SR)?

A. SR is based on scientific

B. SR is based on logical

C. SR has a process

D. SR is similar to narrative review

Question 33

Arrange the following Indian states, in ascending order of Gross Enrolment Ratio (per cent) in Higher Education (18-23 years age group) in the Year 2018-19:

A. Bihar; Andhra Pradesh; Tamil Nadu; Uttar Pradesh

B. Andhra Pradesh; Tamil Nadu; Uttar Pradesh; Bihar

C. Bihar; Uttar Pradesh; Andhra Pradesh; Tamil Nadu

D. Tamil Nadu; Andhra Pradesh; Uttar Pradesh; Bihar

Question 34

Match the following lists and select the correct answer from codes below: List - I List - II (A) Crosstabulation

(ii) Causality (C) F test

(iii) X^2 test (D) Granger test (iv)

Comparison of several means Code: D)

A. (iii) (i) (iv) (ii)

B. (i) (ii) (iii) (iv)

C. (iv) (iii) (ii) (i)

D. (ii) (iii) (i) (iv)

Question 35

In a world with only three countries (A, B and C), if countries A and B have trade surpluses, then which of the following can be said (assume exports and imports are both valued fob)?

A. C must necessarily have a current account deficit

B. C's trade is balanced

C. If C has a current account surplus, it must necessarily have a surplus in its invisibles balance

D. C could also have a trade surplus

Question 36

When $C = 20 + 0.5Y$, and change in investment $(\Delta I) = 400$, find change in income (Δy).

A. 800

B. 13.5

C. 23

D. 4.5

Question 37

A farmer has 2.5 acre of land on which he cultivates kharif and Rabi crops. What will be cropping intensity?

A. 200%

B. 400%

C. 100%

D. 240%

Question 38

When $MC = 10 + 0.4X, MR = 30 - 0.6X$, damage borne by society is 10 in the case of externality, find the consumer loss when the government interferes the externality.

A. 90

B. 200

C. 300

D. 400

Question 39

Match the following lists and select the correct answer from codes below:

List - I (A) Crosstabulation (B) Unit root test (C) F test (D) Granger test

List - II

(i) Stationarity

(ii) Causality

(iii) x^2 test

(iv) Comparison of several means

A. A-iii, B-i, C-iv, D-ii

B. A-i, B-ii, C-iii, D-iv

C. A-iv, B-iii, C-ii, D-i

D. A-ii, B-iii, Ci, D-iv

Question 40

While accessing and using the internet stuff, which of these steps is the most essential?

A. Recording the full URL

B. Noting the access dates

C. Downloading material to be referenced

D. They are all equally important

Question 41

We are given the following information, mean 3.28, mode 3 and standard deviation 1.34. The Karl Pearson's Co-efficient of Skewness is

A. 0.21

B. 0.41

C. 1.41

D. 4.11

Question 42

The The Cost function of each firm in an industry in the long run is $C = Q^3 - 10Q^2 + 35Q$. The industry demand is D = 2500 - 200P. Firms are maximising profit. Find the number of firms in the industry.

A. 00

B. 300

C. 500

D. 900

Question 43

If A, B and C, three sets of values of x, are given as $A : 2, 3, 7, 1, 32, 3; B : 7, 5, 9, 12, 5, 3, 8;$ and C: $4, 4, 11, 7, 2, 3, 4$. Which of the followings is true?

A. Mean of A=Mode of C

B. Mean of C=Median of B

C. Median of B=Mode of A

D. Mean, Mode and Median of A are equal

Question 44

The lines of regression intersect at point

A. $(\bar{x}, \bar{y})$

B. (x, y)

C. $(0, 0)$

D. $(1, 1)$

Question 45

Zotero is a tool for

A. Statistical analysis software

B. Plagiarism check software's

C. Reference management

D. Grammar checking

Question 46

A farmer has 2.5 Acre of land on which he cultivates 4 times in a year 2020 . What is Net Sown Area in this case?

A. .5 acres

B. 10 acres

C. 12.5 acres

D. 3.5 acres

Question 47

A large speculative demand for money is likely to exist when

A. People wish to borrow money in order to speculate in the stock exchange

B. The current rate of interest is high

C. The current rate of interest is lower than people expect it to be in the near future

D. GST

Question 48

What will be Keynesian multiplier when $C = 10 + 0.8Y$ and Import $(M) = -6 + 0.3Y$

A. 2

B. 3

C. 4

D. 5

Question 49

Arrange the following state, in ascending order of life expectancy at birth (years 2014-18):

A. Uttar Pradesh; Bihar; Jammu & Kashmir; Kerala

B. Kerala; Uttar Pradesh; Bihar; Jammu & Kashmir

C. Bihar; Jammu & Kashmir; Kerala; Uttar Pradesh

D. Uttar Pradesh; Jammu & Kashmir; Kerala; Bihar

Question 50

A frequency distribution gives the following results:

(i) coefficient of variation = 5,

(ii) variance = 4,

(iii) skewness = 0.5,

what are the mean and mode of the distribution?

A. 40 and 39

B. 39 and 40

C. 45 and 40

D. 40 and 35

Question 51

When Cobb-Douglas production function $Q(L, K) = 8L^{0.3}K^{0.7}$ and $L = 100, K = 100$, Find the P^L.

A. 2.4

B. 3.4

C. 5

D. 6

Question 52

A consumer's preference over commodities 1 and 2 can be represented by the utility function

$U(x1, x2) \sim x1 + x2$. Suppose the price of commodity 1 changes. Which of the following statements is certainly correct?

A. There is no income effect on the demand for commodity I.

B. There is no substitution effect on the demand for commodity I.

C. There is no substitution effect on the demand for commodity 1 if the cheaper good remains cheaper after the price change.

D. There is no income effect on the demand for commodity 1 if the cheaper good remains cheaper after the price change.

Question 53

During the regression analysis, researcher found that one regression coefficient of the tworegression line is greater than 1 , the other will be

A. > 1

B. 1

C. < 1

D. 0

Question 54

Disinflation is a situation when

A. Inflation is slowing down over a period of time

B. Inflation is negative over a period of time

C. Inflation is increasing and positive over a period of time

D. monetisation

Question 55

Which hypothesis states that people gear their consumption behaviour to their long term consumption opportunities and not their current level of income?

A. Life cycle consumption hypothesis

B. Permanent consumption hypothesis

C. Relative consumption hypothesis

D. Income related intern hypothesis

Question 56

When MPC $_d$ = 2/5, change in the government expenditure (ΔG) = 1, change in the tax (ΔT) = 1/10, find fiscal policy multiplier.

A. 3/5

B. 3/7

C. 1/8

D. 17

Question 57

When money demand function $M_d = 0.5Y - 50$ r money supply function $M_s = 1000$ Crore, Find LM curve equation.

A. $Y = 2000 + 100r$

B. $Y = 3000 + 100r$

C. $Y = 4000 + 100r$

D. $Y = 26000 + 100r$

Question 58

Which of the following statement is not correct?

A. In India, total population of age group 60 and above from 2001 to 2011 has increased.

B. In India, total population of age group 60 and above from 2001 to 2011 has decreased.

C. In India, total population of age group 0 - 14 years from 2001 to 2011 has decreased.

D. In India, child sex ratio (0-6 years) from 2001 to 2011 has increased.

Question 59

For null hypothesis $(H_0) : \beta_2 = 0$ and alternative hypothesis $(H_1) : \beta_2 \neq 0$

A. One sided hypothesis test

B. Two sided hypothesis test

C. Open ended hypothesis test

D. t-test

Question 60

What do you consider before submission of your article to a journal for publication?

A. Indexing of the journal

B. Scope of journal

C. Alignment of researcher article with already published article in the journal.

D. Game theory

Question 61

Saksham, an industrialist, has Rs. 30 as capital, 25 workers as labour, total factor productivity is constant at **0.4**, output elasticity of labour is **0.3** and output elasticity of capital is **0.7**, then what will be production function in the form of Cobb-Douglas.

A. $Q = 0.8^{*}30^{0.4} * 25^{0.6}$

B. $Q = 0.9^{*}30^{0.4} * 25^{0.6}$

C. $Q = 0.7^{*}30^{0.4} * 25^{0.6}$

D. $Q = 0.4^{*}25^{0.3} * 30^{0.7}$

Question 62

When $MC = 10 + 0.4X, MR = 30 - 0.6X$, damage borne by society is 10 in the case of externality, find the government revenue when she interferes the externality.

A. 100,

B. 200,

C. 300,

D. 400

When marginal Rate of tax (MRT) is 1/5 and marginal propensity to consume out of disposable income (MPC $_d$) is 3/5, Find marginal Propensity to consume(MPC).

Question 63

A. /5

B. 3/7

C. 12/25

D. 4/9

Question 64

Given testing for $H_0 : \mu_1 = \mu_2$, the values of the statistic $\frac{|\bar{x}-\bar{y}|}{\left(\sigma\sqrt{\frac{1}{n_1}+\frac{1}{n_2}}\right)}$ lies between 1.96 and 2.58 then what decision you make about H_0

A. Reject it at 5% level of significant

B. Reject at 1% level of significant

C. Accept it at 5% level of significant

D. Accept at 1% level of significant

Question 65

If e> 1, the total revenue curve has a _____slope.

A. Positive

B. Negative

C. Zero

D. None of the above

Question 66

A σ-algebra F of subsets of X is a collection F of subsets of X hold the following conditions:

I. $\emptyset \in F$

II. if $B \in F$ then its complement B^c is also in F

III. if $B_1, B_2, \ldots$ is a countable collection of sets in F then their union $\bigcup_{n=1}^{\infty} B_n$

A. Hold I and II

B. Hold II and III

C. Hold only I

D. Hold I, II and III.

Question 67

Which command allows researcher to set the required journal format in LaTeX?

A. document

B. documentclass

C. format

D. documentformat

Question 68

Net Imports of Petroleum and Petroleum products (Million Tons) in the year 2019-20 (Provisional) were?

A. 1.9 Million Tons

B. 21.9 Million Tons

C. 6.0 Million Tons

D. -6.0 Million Tons

Question 69

Integration of the following: $\int \frac{x}{(x-1)(x-2)} dx$:

A. $\log \frac{(x-2)^2}{x-1} + c$

B. $\log \frac{(x-2)}{(x-1)} + c$

C. $-\log(x-1) + 2(x-2) + C$

D. $\log \frac{(x-2)^2}{(x-1)^2} + c$

Question 70

Given below are two statements for time series

I The component of time series attached to long term variation is secular trend

II The component of time series attached to short term variation is seasonal trend

A. Statement I is true and Statement II is false

B. Statement I is false and Statement II is true

C. Both Statement I and Statement II are true

D. Both Statement I and Statement II are false

Question 71

Which one of the following statements is necessarily true?

A. A monopolist always operates on the inelastic portion of the demand curve it faces.

B. If a monopolist can charge different prices in two different markets, then it would tend to charge the lower price in the market with the less elastic demand.

C. The level of output produced by a perfectly price-discriminating monopolist is efficient.

D. None of the above

Question 72

Suppose you have two options either to go to club or to work to earn. In both cases time spent is 5 hours. You are willing to spend Rs. 125 for clubbing for which you spent Rs. 75 for ticket. If you work, get Rs. 10 per hour. What will be opportunity cost of clubbing?

A. 125

B. 135

C. 175

D. 185

Question 73

When MPC = 1/4, MRT (Marginal rate of tax) = 9/10 and change in the government expenditure ($\Delta \mathbf{G}$) = 1, find the increase in tax?

A. 6/5

B. 11/16

C. 15

D. 2

Question 74

When LM = $1000 + 200r$, $C = 800 + 0.5(Y - T)$, $T = 50$, $G = 50$, $I = 100 - 5r$, find interest rate.

A. .04

B. 3.06

C. 5.06

D. 8.02

Question 75

A collection of sets F is called an algebra if it holds the following: I. $\emptyset \in F$

II. F is closed under complementation

III. F is closed under finite unions.

A. Hold I and II

B. Hold I and III

C. Hold only I

D. Hold I,II and III

Question 76

Accepting a false null hypothesis results in the type of error is

A. Type I error

B. Type II error

C. Hypothesis error

D. Structural error

Question 77

The budget for movie is Rs. 300 out of which you have to spend Rs. 150 for ticket. You have other option to go to work to earn Rs. 200 . Should you go for movie?

A. No

B. Yes

C. Can't say

D. Half

Question 78

Mean deviation is minimum when taken from

A. Mean

B. Median

C. Mode

D. Impossible to know

Question 79

When consumption function is C = **5** + **0.6Y** and investment function is I = **200** − **50r**, find equation for IS curve.

A. $-Y = 512.5 - 125r$

B. $Y = 512.5 - 25r$

C. $Y = 530.5 - 125r$

D. $Y = 612.5 - 5r$

Question 80

What is important to include a list of references like works cited bibliography, references at the end of the article and report.

A. A reader can check the accuracy of information by reviewing the references from the references list.

B. If researcher interested further in the topic, a reader can locate the refrences information from your list for further reading

C. It will build researcher credibility as good write and scholar.

D. Constant law

Question 81

When Cobb-Douglas production function $Q(L,K) = 8L^{0.3}K^{0.7}$ and $L = 100, K = 100$, Find total cost of production.

A. 00

B. 980

C. 1080

D. 1180

Question 82

What is the relationship between average propensity to consume (APC) and marginal propensity to consume (MPS)?

A. APC is equal to MPC at all levels of income

B. APC is greater than MPC at all levels of income

C. APC is smaller than MPC at all levels of income

D. MRT is greater

Question 83

Given testing for $H_0 : \mu_1 = \mu_2$, and test statistic $\frac{|\bar{x}-\bar{y}|}{\left(\sigma\sqrt{\frac{1}{n_1}+\frac{1}{n_2}}\right)}$. which nonparametric test will be applied for this case if data is not normal?

A. Wilcoxon rank sum test

B. Wilcoxon sign rank test

C. Kruskal wallis test

D. Wilson

Question 84

The domestic demand function (D) of petrol in India is $1000-5P$ and Supply (S) function is $500 + 10P$. The domestic demand (D) of petrol in Iran is 1200-20P and domestic supply (S) = $1500+15P$. When India completely bans the import from Iran to encourage domestic production, what will be the price of petrol?

A. 33.33

B. 40

C. 66

D. 77.77

Question 85

For a distribution, the coefficient of variation is 22% and the value of arithmetic average is 7. The value of standard deviation is

A. 1.44

B. 1.54

C. 0.54

D. 154

Question 86

Poverty Headcount Ratio (HCR) in the year 2011-12 was 21.9 for all India, what was the HCR for the year 2009-10?

A. 38.8

B. 39.9

C. 19.9

D. 29.8

Question 87

When IS = $1500 - 50r$, money supply = 500, price $(p) = 2, M_d/p = Y - 50r$, find the interest rate.

A. 12.50

B. 13.60

C. 14.23

D. 1200

Question 88

When marginal rate of tax (MRT) is 2/3 and MPC $_d$ is 8/10, find MPC.

A. 5/78

B. 3/7

C. /30

D. 18

Question 89

If $\$P$ is invested for T year at an interest rate of r with continuous compounding takes on the value A

A. $A = Pe^{Tr}$

B. $A = Pe^{r}$

C. $A = Pe^{T/r}$

D. $A = Pe^{r/T}$

Question 90

What is not true about correlation coefficient?

A. The correlation coefficient **r** is independent of the choice of origin and scale.

B. The correlation coefficient ***r*** is a pure number and is not independent of the units of measurement.

C. The correlation coefficient lies between -1 and +1.

D. The correlation coefficient can be 0.3

Question 91

When MPC $_d$ = 1/4. Find the impact of the budget deficit of Rs. 2 on consumption.

A. 2/3

B. 8

C. 6

D. 4/5

Question 92

When MPC $_d$ = 1/5, MPC = 1/4, find tax multiplier.

A. 4/15

B. 2/15

C. 1/71

D. 1/17

Question 93

Which of the following statement is not correct?

A. Percentage decadal growth rate of population (1991-2001) of Kerala was the minimum amongst all the Indian states.

B. Percentage decadal growth rate of population, for Tamil Nadu in the decade 1991-2001 was higher than that of the decade 2001-2011.

C. Percentage decadal growth rate of population, for all India in the decade 1991-2001 was higher than that of the decade 2001-2011.

D. Percentage decadal growth rate of population, for all India in the decade 2001-2011 was lower than that of the decade 1991-2001.

Question 94

Which of the following statements about plagiarism is most important and appropriate?

A. It is so easy to "copy and paste" from the internet that everyone does it nowadays. If a proper reference is given, where is the harm in that?

B. How can we say for sure where our own ideas come from exactly? If we tried to give a reference for everything we could never hope to succeed.

C. Any suggestion that we have written what another actually wrote is morally wrong. The whole point of a literature review is to show what we have read and what we thought about it.

D. Plagiarism is such an awful crime that those found guilty should be obliged to wear a scarlet "P" on their clothing.

Question 95

When MRT = 2/3, change in the government expenditure (ΔG) = 1, MPC = 1/6, find budget deficit.

A. 1/5

B. 1/6

C. 1/4

D. 1/7

Question 96

The Fisher's Price Index is the _____of Laspeyre's and Paasche's price index numbers.

A. Arithmetic Mean

B. Geometric Mean

C. Harmonic Mean

D. Corresponding

Question 97

Suppose India imports Lentils from USA at the price (P) of $20 per kg. The domestic demand (D) = 1200 - 10P and domestic supply (S) = 200 + 40P. What will be the effect of fixing import quota of 200 kg on price?

A. Price will decrease by $4/kg

B. Price will increase by $4/kg

C. Price will decrease by $8/kg

D. Price will increase by $8/kg

Question 98

From the given information: number of observation (n) = 16, correlation co-efficient (r) = 0.9544, the Probable Error (PE) is given by

A. −1.213

B. 0.015

C. 1.321

D. 0.123

Question 99

A farmer has 10.00 acres of land on which he crops paddy on 10.00 acres, wheat on 7 acres and lentils on 3 acres in a year. What will be cropping intensity?

A. 200%

B. 400%

C. 500%

D. 100%

Question 100

Arrange the following principal exports group in ascending order (value in million dollars) in the year 2019 – 20.

A. Agricultural and allied products; Manufactured goods; Mineral fuel and lubricants (incl. coal); Ores and minerals (excl. coal)

B. Manufactured goods; Ores and minerals (excl. coal); Mineral fuel and lubricants (incl. coal); Agricultural and allied products

C. Ores and minerals (excl. coal); Agricultural and allied products; Mineral fuel and lubricants Ores and minerals (excl. coal); Agricultural and allied products; Mineral fuel and lubricants,

D. Mineral fuel and lubricants (incl. coal); Manufactured goods; Agricultural and allied products; Ores and minerals (excl. coal)