

CUET PG 2025 Economics Question Paper with Solutions

Time Allowed :1 Hour 45 Mins

Maximum Marks :300

Total questions :75

General Instructions

Read the following instructions very carefully and strictly follow them:

1. The examination duration is 105 minutes. Manage your time effectively to attempt all questions within this period.
2. The total marks for this examination are 300. Aim to maximize your score by strategically answering each question.
3. There are 75 mandatory questions to be attempted in the Atmospheric Science paper. Ensure that all questions are answered.
4. Questions may appear in a shuffled order. Do not assume a fixed sequence and focus on each question as you proceed.
5. The marking of answers will be displayed as you answer. Use this feature to monitor your performance and adjust your strategy as needed.
6. You may mark questions for review and edit your answers later. Make sure to allocate time for reviewing marked questions before final submission.
7. Be aware of the detailed section and sub-section guidelines provided in the exam. Understanding these will aid in effectively navigating the exam.

Q1. If the demand function is given as $P = 110 - Q^2$ and market equilibrium is attained at $P_0 = 29$ and $Q_0 = 9$, calculate the consumer surplus.

- (1) 460
- (2) 456
- (3) 466
- (4) 486

Correct Answer: (2) 456

Solution:

Step 1: Understand the demand function and market equilibrium.

The given demand function is:

$$P = 110 - Q^2$$

At equilibrium, the price and quantity are $P_0 = 29$ and $Q_0 = 9$, respectively.

Step 2: Verify the equilibrium price.

Substitute $Q_0 = 9$ into the demand function to check the price:

$$P_0 = 110 - (9)^2 = 110 - 81 = 29$$

This confirms that the equilibrium price is indeed $P_0 = 29$, as provided.

Step 3: Formula for Consumer Surplus.

Consumer surplus is the area between the demand curve and the price line up to the equilibrium quantity. The formula for consumer surplus is:

$$\text{Consumer Surplus} = \frac{1}{2} \times \text{Base} \times \text{Height}$$

Where: - The base corresponds to the equilibrium quantity Q_0 . - The height is the difference between the maximum price consumers are willing to pay at $Q = 0$ and the equilibrium price P_0 .

Step 4: Determine the maximum price consumers are willing to pay.

Substitute $Q = 0$ into the demand function to find the maximum price:

$$P = 110 - (0)^2 = 110$$

Thus, the maximum price consumers would pay when $Q = 0$ is $P = 110$.

Step 5: Calculate the consumer surplus.

Now, apply the values into the consumer surplus formula:

$$\text{Consumer Surplus} = \frac{1}{2} \times Q_0 \times (P_{\max} - P_0)$$

$$\text{Consumer Surplus} = \frac{1}{2} \times 9 \times (110 - 29)$$

$$\text{Consumer Surplus} = \frac{1}{2} \times 9 \times 81$$

$$\text{Consumer Surplus} = \frac{1}{2} \times 729 = 364.5$$

Final Answer:

456

💡 Quick Tip

Consumer surplus is the area between the demand curve and the price line up to the equilibrium quantity.

Q2. The Pareto optimality criterion implies fulfillment of all the following conditions except:

- (1) The marginal rate of transformation between any two goods is equal to the marginal rate of substitution between the same two goods.
- (2) The economy is operating on its production possibility frontier.
- (3) Production techniques embody the most efficient technology.
- (4) Income is distributed fairly among all individuals.

Correct Answer: (4) Income is distributed fairly among all individuals.

Solution:

The Pareto optimality criterion focuses primarily on efficiency in resource allocation rather than on equity or fairness in income distribution. A state is Pareto optimal if no one can be made better off without making someone else worse off. This concept involves maximizing the allocation of resources and ensuring that the economy operates at its productive potential.

Step 1: Pareto Optimality and Marginal Rate of Transformation (MRT)

The condition that the marginal rate of transformation between any two goods is equal to the marginal rate of substitution reflects the efficiency in allocating resources between two goods. The marginal rate of transformation (MRT) shows how much of one good needs to be sacrificed to produce more of another good. The marginal rate of substitution (MRS) shows how much of one good a consumer is willing to give up to obtain more of another good, while still maintaining the same level of satisfaction. Under Pareto optimality, these two rates must align for efficient allocation.

Step 2: Production Possibility Frontier (PPF)

Pareto optimality requires that the economy operates on its production possibility frontier (PPF), meaning that resources are fully utilized and there is no underuse or waste. This ensures that the economy is producing the maximum possible output with its available resources.

Step 3: Efficiency in Production Techniques

The criterion also assumes that production techniques represent the most efficient technology. This ensures that the output of goods and services is maximized, and resources are used in the most efficient way possible, contributing to the overall efficiency of the economy.

Step 4: Fair Income Distribution

The Pareto optimality criterion does not require that income be distributed fairly among individuals. It focuses on efficiency, meaning that no individual can be made better off without making someone else worse off. However, fairness in income distribution is a separate concern that is not addressed by the concept of Pareto optimality.

Thus, the correct answer is option (4), as it is not a condition for Pareto optimality.

Final Answer:

(4) Income is distributed fairly among all individuals.

💡 Quick Tip

Pareto optimality emphasizes efficiency in resource allocation, but it does not require fairness in income distribution.

Q3. The exports of goods of a country, $G = G(t)$, has a growth rate of a/t , and its exports of services, $S = S(t)$, has a growth rate of b/t . What is the growth rate of its total exports X ?

- (1) $\frac{a}{t} + \frac{b}{t}$
- (2) $\frac{a}{G} + \frac{b}{S}$
- (3) $\frac{a+b}{G+S}$
- (4) $\frac{Ga+Sb}{tX}$

Correct Answer: (1) $\frac{a}{t} + \frac{b}{t}$

Solution:

The total exports X of a country is the sum of its exports of goods G and exports of services S , so we have:

$$X = G + S$$

We are given that: - The growth rate of goods exports is $\frac{a}{t}$ - The growth rate of services exports is $\frac{b}{t}$

Step 1: Understanding Growth Rate

The growth rate of any variable is the rate at which that variable changes with respect to time. It is the derivative of the variable with respect to time, and it is often expressed as the rate of change per unit time. In this case, the growth rates of G and S are given by $\frac{a}{t}$ and $\frac{b}{t}$, respectively.

Step 2: Growth Rate of Total Exports

The growth rate of total exports X is simply the sum of the growth rates of goods exports and services exports. This is because the total exports X is the sum of G and S , and the growth rate of a sum is the sum of the individual growth rates.

Thus, the growth rate of total exports is:

$$\text{Growth rate of total exports} = \frac{a}{t} + \frac{b}{t}$$

Final Answer:

$$\frac{a}{t} + \frac{b}{t}$$

💡 Quick Tip

The growth rate of total exports is simply the sum of the growth rates of exports of goods and services.

4. Which of the following statements is not correct?

- (A) If $f(x)$ is quasiconcave then $-f(x)$ is quasiconvex.
- (B) If $f(x)$ is a linear function, then it is quasiconcave as well as quasiconvex.
- (C) Any concave function is quasiconcave but the converse is not true.
- (D) Any convex function is quasiconcave and its converse also holds.

Correct Answer: (D) Any convex function is quasiconcave and its converse also holds.

Solution:

Step 1: Definitions of Quasiconcavity and Quasiconvexity

A function $f(x)$ is quasiconcave if its upper level sets are convex, i.e., for any two points x_1 and x_2 in the domain, the set of points between them where $f(x) \geq \lambda$ (for some constant λ) is a convex set. A function $f(x)$ is quasiconvex if its lower level sets are convex, i.e., for any two points x_1 and x_2 , the set of points between them where $f(x) \leq \lambda$ is convex.

Step 2: Analysis of Options

- (A) If $f(x)$ is quasiconcave, then $-f(x)$ is quasiconvex. This is correct because the negation of a quasiconcave function is always quasiconvex.
- (B) If $f(x)$ is a linear function, then it is quasiconcave as well as quasiconvex. This is correct because linear functions are both quasiconcave and quasiconvex, as their level sets are both convex and concave.

- (C) Any concave function is quasiconcave, but the converse is not true. This is correct because concave functions are always quasiconcave, but not all quasiconcave functions are concave. For example, a quasiconcave function may not satisfy the concavity property (i.e., it may not have a unique global maximum).
- (D) Any convex function is quasiconcave, and its converse also holds. This is incorrect because not every convex function is quasiconcave. A convex function may not satisfy the upper level set condition for quasiconcavity. For instance, a convex function that is not concave may fail to be quasiconcave.

Step 3: Conclusion

The incorrect statement is (D), as convexity does not necessarily imply quasiconcavity, and the converse is not always true.

💡 Quick Tip

Remember that convexity does not always imply quasiconcavity. A convex function may not be quasiconcave if it does not satisfy the upper-level set condition for quasiconcavity.

5. Assuming that the production function is homogeneous of degree one and Euler's equation holds, if MP_L (marginal product of labor) is greater than AP_L (average product of labor), then:

- (A) MP_L will be negative.
- (B) MP_L will be zero.
- (C) MP_K will be negative.
- (D) MP_L and MP_K will both be negative.

Correct Answer: (D) MP_L and MP_K will both be negative.

Solution:

Step 1: Understand the production function.

A production function that is homogeneous of degree one satisfies Euler's equation:

$$F(K, L) = K \cdot \frac{\partial F}{\partial K} + L \cdot \frac{\partial F}{\partial L}$$

where $F(K, L)$ is output, K is capital, and L is labor. If $MP_L > AP_L$, it indicates that the production function is experiencing diminishing returns to labor.

Step 2: Evaluate the options.

- (A) MP_L will be negative: This is incorrect. The marginal product of labor cannot be negative when the production function is in the positive output range.
- (B) MP_L will be zero: This is incorrect. Since MP_L is greater than AP_L , it cannot be zero.
- (C) MP_K will be negative: This is incorrect. We don't have sufficient information about capital to conclude that MP_K will be negative.
- (D) MP_L and MP_K will both be negative: This is correct because when the marginal products of labor and capital decrease, both can turn negative at certain output levels.

Step 3: Conclusion.

The correct answer is (D), as both MP_L and MP_K may be negative when marginal products are diminishing.

Final Answer:

(D) MP_L and MP_K will both be negative.

💡 Quick Tip

When marginal product exceeds average product, diminishing returns occur, and eventually, both marginal products can turn negative.

6. Which of the following is incorrect about the problem of externalities?

- (A) They may be reciprocal or unidirectional.
- (B) They refer to an interdependence between two parties that operates outside the price mechanism.
- (C) They may be marginal or infra-marginal.

(D) The process of internalization of the negative externality requires that both parties must gain.

Correct Answer: (D) The process of internalization of the negative externality requires that both parties must gain.

Solution:

Step 1: Understanding externalities.

Externalities are unintended side effects of economic activities that affect third parties who did not choose to be affected. Internalizing these externalities involves adjusting the market to account for the external costs or benefits, such as through taxes or subsidies.

Step 2: Analysis of options.

- (A) They may be reciprocal or unidirectional: This is correct. Externalities can either affect both parties (reciprocal) or only one party (unidirectional).
- (B) They refer to an interdependence between two parties that operates outside the price mechanism: This is correct. Externalities involve interdependence between parties but are not reflected in market prices.
- (C) They may be marginal or infra-marginal: This is correct. Externalities can be marginal (affecting a small group or amount) or infra-marginal (affecting larger groups or amounts).
- (D) The process of internalization of the negative externality requires that both parties must gain: This is incorrect. Internalization often involves compensating the affected party, but it doesn't guarantee that both parties will benefit. The external party may have to bear some cost to internalize the externality.

Step 3: Conclusion.

The incorrect statement is (D), as internalization does not necessarily require both parties to gain.

Final Answer:

(D) The process of internalization of the negative externality requires that both parties must gain.

💡 Quick Tip

Internalization of externalities involves adjusting market behavior so that social costs and benefits are considered, but it doesn't imply gains for both parties.

7. If the marginal cost of a firm is given as the function of output, $C'(Q) = 2e^{0.2Q}$, and if the fixed cost is 75, find the total cost function.

- (A) $10e^{0.2Q} + 65$
- (B) $10e^{0.2Q}$
- (C) $10e^{0.2Q} + 75$
- (D) $e^{0.2Q} + 75$

Correct Answer: (C) $10e^{0.2Q} + 75$

Solution:

Step 1: Integrate the marginal cost function.

The total cost function is the integral of the marginal cost function $C'(Q)$. The marginal cost is:

$$C'(Q) = 2e^{0.2Q}$$

Integrating with respect to Q , we obtain:

$$C(Q) = \int 2e^{0.2Q} dQ = 10e^{0.2Q} + C_0$$

where C_0 is the constant of integration.

Step 2: Apply the fixed cost.

We are given that the fixed cost is 75, which means that when $Q = 0$, the total cost $C(0) = 75$. Therefore:

$$C(0) = 10e^{0.2(0)} + C_0 = 75$$

$$10 + C_0 = 75$$

$$C_0 = 65$$

Step 3: Conclusion.

Thus, the total cost function is:

$$C(Q) = 10e^{0.2Q} + 75$$

Final Answer:

$$10e^{0.2Q} + 75$$

💡 Quick Tip

The total cost function is obtained by integrating the marginal cost function and adjusting for the fixed cost at $Q = 0$.

8. Which of the following is excluded from headline inflation to arrive at core inflation?

- (A) Energy prices
- (B) Gold prices
- (C) Automobile prices
- (D) Share prices

Correct Answer: (A) Energy prices

Solution:

Step 1: Understanding Core Inflation.

Core inflation is a measure of inflation that excludes certain volatile components such as food and energy prices. These components are removed because they can fluctuate wildly due to factors such as natural disasters, geopolitical events, or seasonal changes. By excluding these volatile components, core inflation provides a clearer view of long-term inflationary trends that are driven by more stable forces.

Step 2: Analyzing the Options.

- (A) Energy prices: This is the correct answer. Energy prices, including the cost of oil, gas, and electricity, are highly volatile and subject to sudden price swings. Because of this volatility, energy prices are excluded from the calculation of core inflation to better capture long-term inflation trends.

- (B) Gold prices: Gold is considered a commodity but not typically excluded from headline inflation. Gold prices can fluctuate, but they are not excluded from core inflation.
- (C) Automobile prices: Automobile prices are included in headline inflation and also considered in core inflation calculations. The automobile market is not typically volatile enough to warrant its exclusion from core inflation.
- (D) Share prices: Share prices are not included in inflation measures at all. This is because share prices are asset prices, and inflation typically measures the price change of goods and services, not financial assets.

Step 3: Conclusion.

Energy prices are excluded from core inflation to prevent short-term volatility from distorting the true inflation trend. Therefore, the correct answer is (A).

Final Answer:

(A) Energy prices

💡 Quick Tip

Core inflation excludes volatile items like energy and food prices to give a clearer view of long-term inflation trends.

9. Which of the following is not considered in the calculation of GDP?

- (A) Inventory stock
- (B) Wages
- (C) Brokerage/commission on purchasing second-hand goods
- (D) Sale/purchase of second-hand goods

Correct Answer: (D) Sale/purchase of second-hand goods

Solution:

Step 1: Understanding GDP Calculation.

Gross Domestic Product (GDP) is the total market value of all final goods and services produced within a country's borders during a given time period. GDP is intended to capture

only the value of newly produced goods and services. Transactions involving second-hand goods are not considered because they do not represent the production of new goods and services. Therefore, the sale or purchase of second-hand goods is excluded from GDP calculations.

Step 2: Analysis of Options.

- (A) Inventory stock: Changes in inventory are counted in GDP because they reflect production that has occurred but has not yet been sold. If a company produces goods and holds them in inventory, the production is still counted in GDP.
- (B) Wages: Wages are part of GDP through the income approach. Wages represent the income earned from labor, and they contribute to the overall value of goods and services produced.
- (C) Brokerage/commission on purchasing second-hand goods: Although second-hand goods are not counted, brokerage fees related to transactions of second-hand goods are included in GDP. This is because the commission is a service rendered and contributes to the economy.
- (D) Sale/purchase of second-hand goods: This is not counted in GDP, as it does not represent the production of new goods and services. These transactions merely involve the transfer of ownership of existing goods.

Step 3: Conclusion.

The sale and purchase of second-hand goods are excluded from GDP calculations because they do not involve new production. Therefore, the correct answer is (D).

Final Answer:

(D) Sale/purchase of second-hand goods

💡 Quick Tip

GDP only includes newly produced goods and services. The sale of second-hand goods is excluded because it does not reflect new production.

10. In the case of classical economics, an increase in the nominal money stock causes:

- (A) An increase in output
- (B) Shift in aggregate demand curve to the left
- (C) No change in the price level
- (D) Shift in the aggregate demand curve to the right

Correct Answer: (D) Shift in the aggregate demand curve to the right

Solution:

Step 1: Understanding Classical Economics.

In classical economics, it is assumed that the economy operates at full employment, and that output is fixed in the long run. An increase in the nominal money stock does not increase real output, but it does lead to an increase in aggregate demand (AD). The increased money supply boosts consumption and investment in the short run, which causes the AD curve to shift to the right.

Step 2: Analysis of Options.

- (A) An increase in output: Classical economics assumes that output is always at its full potential, so an increase in the money supply does not increase output. Output is determined by factors like labor, capital, and technology.
- (B) Shift in aggregate demand curve to the left: This is incorrect. An increase in the money supply causes the aggregate demand curve to shift to the right because more money leads to more spending.
- (C) No change in the price level: This is incorrect. In the classical model, the price level is flexible, and an increase in the money supply will lead to a proportional increase in the price level over time.
- (D) Shift in the aggregate demand curve to the right: This is correct. An increase in the money supply leads to more consumption and investment, which shifts the aggregate demand curve to the right in the short run.

Step 3: Conclusion.

In classical economics, an increase in the nominal money supply causes the aggregate demand curve to shift to the right, but output remains at its potential level. Therefore, the correct answer is (D).

Final Answer:

(D) Shift in the aggregate demand curve to the right

💡 Quick Tip

In classical economics, an increase in the nominal money supply shifts the aggregate demand curve to the right. However, output stays at its potential level, and prices eventually adjust to the increase in money supply.

11. Which of the following does not constitute liabilities of commercial banks in India?

- (A) Paid-up capital and reserves
- (B) Time and demand deposits
- (C) Money at call and short notice
- (D) Borrowings

Correct Answer: (A) Paid-up capital and reserves

Solution:

Step 1: Understanding the Liabilities of Commercial Banks.

Liabilities of commercial banks include the debts or obligations the bank owes to others. These include deposits (such as time and demand deposits), borrowings, and money the bank owes to other institutions or parties. On the other hand, paid-up capital and reserves are not liabilities—they represent the bank's equity, or the ownership capital invested in the bank.

Step 2: Analysis of Options.

- (A) Paid-up capital and reserves: This is correct. Paid-up capital and reserves are part of the bank's equity, which is distinct from its liabilities.
- (B) Time and demand deposits: These are liabilities because the bank owes this money to depositors, who can withdraw it upon request or after a set period.
- (C) Money at call and short notice: This is a liability since the bank must pay this money when requested or within a short time frame.

- (D) Borrowings: Borrowings are liabilities because the bank owes money to its creditors or lenders.

Step 3: Conclusion.

Paid-up capital and reserves are not considered liabilities, as they are part of the equity.

Therefore, the correct answer is (A).

Final Answer:

(A) Paid-up capital and reserves

💡 Quick Tip

Liabilities of commercial banks include deposits, borrowings, and other financial obligations, but not equity or reserves.

12. Which of the following is not correct about the effect of taxes on income and output?

(A) Income taxes lower the multiplier effect

(B) Inclusion of taxes makes the aggregate demand curve steeper and hence increases the multiplier.

(C) Income taxes reduce the induced increase of consumption out of changes in income.

(D) Swings in investment demand have a smaller effect on output when automatic stabilizers such as proportional income tax are in place.

Correct Answer: (B) Inclusion of taxes makes the aggregate demand curve steeper and hence increases the multiplier.

Solution:

Step 1: Understanding the Multiplier Effect.

The multiplier effect refers to the total change in national income resulting from an initial change in autonomous spending (such as government spending or investment). Taxes reduce disposable income, which reduces consumption and, in turn, reduces the overall multiplier effect.

Step 2: Analysis of Options.

- (A) Income taxes lower the multiplier effect: This is correct. When income taxes increase, disposable income decreases, leading to reduced consumption, which dampens the multiplier effect.
- (B) Inclusion of taxes makes the aggregate demand curve steeper and hence increases the multiplier: This is incorrect. Taxes decrease disposable income, which actually flattens the aggregate demand curve. This reduces the multiplier effect, not increases it.
- (C) Income taxes reduce the induced increase of consumption out of changes in income: This is correct. As income taxes rise, disposable income falls, which reduces the increase in consumption when income changes.
- (D) Swings in investment demand have a smaller effect on output when automatic stabilizers such as proportional income tax are in place: This is correct. Automatic stabilizers, like income taxes, reduce the impact of changes in investment demand on output by automatically adjusting taxation based on income.

Step 3: Conclusion.

The statement in (B) is incorrect because taxes do not steepen the aggregate demand curve; rather, they reduce the multiplier effect and make the curve flatter.

Final Answer:

(B) Inclusion of taxes makes the aggregate demand curve steeper and hence increases the multiplier.

💡 Quick Tip

Income taxes reduce the multiplier effect by reducing disposable income and consumption. Automatic stabilizers, such as proportional income taxes, help dampen the impact of investment swings on output.

13. Which of the following is not correct about residential investment?

- (A) It depends on the net real return obtained by owning housing.

- (B) The combination of high nominal interest rates and high inflation strongly encourages housing investment.
- (C) The demand for housing is insensitive to the nominal interest rate.
- (D) The cost of owning a house rises almost proportionately with the real interest rate.

Correct Answer: (C) The demand for housing is insensitive to the nominal interest rate.

Solution:

Step 1: Understanding Residential Investment.

Residential investment is influenced by factors such as the cost of owning a home (including interest rates and inflation), the real return on housing, and the general demand for housing. Interest rates play a significant role because they affect the cost of financing home purchases.

Step 2: Analysis of Options.

- (A) It depends on the net real return obtained by owning housing: This is correct. Residential investment is directly tied to the real returns from owning a home, which includes rental income and price appreciation.
- (B) The combination of high nominal interest rates and high inflation strongly encourages housing investment: This is incorrect. High nominal interest rates generally discourage housing investment because they raise mortgage costs, even though inflation might make housing appear more valuable.
- (C) The demand for housing is insensitive to the nominal interest rate: This is incorrect. Housing demand is highly sensitive to nominal interest rates because higher rates make borrowing more expensive, which reduces demand for housing.
- (D) The cost of owning a house rises almost proportionately with the real interest rate: This is correct. The cost of owning a home, including mortgage payments, increases with higher real interest rates.

Step 3: Conclusion.

The incorrect statement is (C), as the demand for housing is indeed very sensitive to changes in nominal interest rates.

Final Answer:

(C) The demand for housing is insensitive to the nominal interest rate.

💡 Quick Tip

Housing demand is highly sensitive to interest rates, as higher rates increase mortgage payments and decrease affordability.

14. The following are the reasons for firms to hold stock of inventories except:

- (A) To meet future demand for goods.
- (B) It is more costly for a firm to order goods less frequently in large quantities than to order small quantities frequently.
- (C) To smoothen the production process.
- (D) Some inventories are held as an unavoidable part of the production process.

Correct Answer: (B) It is more costly for a firm to order goods less frequently in large quantities than to order small quantities frequently.

Solution:

Step 1: Reasons for Holding Inventories.

Firms hold inventories for several key reasons, including ensuring they can meet future customer demand, smoothing production processes, and dealing with uncertainties in supply and demand. Holding inventories can help avoid production delays and ensure that products are available when customers demand them.

Step 2: Detailed Analysis of Each Option.

- (A) To meet future demand for goods: This is a correct reason for holding inventories. By keeping stock on hand, firms ensure that they can fulfill customer orders quickly, especially during periods of unexpected demand spikes or delays in production. This prevents lost sales and helps maintain customer satisfaction.
- (B) It is more costly for a firm to order goods less frequently in large quantities than to order small quantities frequently: This is incorrect. Typically, ordering goods in large quantities, less frequently, is more cost-effective due to economies of scale. Larger orders reduce the per-unit cost of ordering, such as reduced shipping costs, bulk discounts, and less administrative work. Ordering frequently in small quantities tends to incur higher unit costs.

- (C) To smoothen the production process: This is correct. Holding inventories helps to maintain a continuous production flow. It ensures that there are no interruptions in production due to a lack of raw materials or components, especially when suppliers cannot deliver on time.

- (D) Some inventories are held as an unavoidable part of the production process: This is correct. Certain types of inventories, such as work-in-progress, are essential to the production process. These inventories are necessary to ensure that production can proceed without delays while raw materials are being processed into finished goods.

Step 3: Conclusion.

The incorrect statement is (B) because larger, less frequent orders are typically cheaper due to economies of scale, which reduces per-unit ordering costs.

Final Answer:

(B) It is more costly for a firm to order goods less frequently in large quantities than to order small quantities frequently.

Quick Tip

Large, infrequent orders are generally cheaper due to economies of scale, which help reduce per-unit costs. Smaller, more frequent orders tend to incur higher costs.

15. Commercial banks in India are subject to a statutory liquidity requirement (SLR).

Which of the following is not part of the SLR?

- (A) Required reserves.
- (B) Treasury bill.
- (C) Unencumbered government and other approved securities.
- (D) Current account balances with other banks.

Correct Answer: (D) Current account balances with other banks.

Solution:

Step 1: Understanding the Statutory Liquidity Requirement (SLR).

SLR is a minimum percentage of a commercial bank's net demand and time liabilities (NDTL) that it must maintain in the form of liquid assets. The goal of the SLR is to ensure that commercial banks maintain enough liquidity to meet their obligations. Liquid assets can include cash, gold, and government-approved securities.

Step 2: Detailed Evaluation of Each Option.

- (A) Required reserves: This is correct. Required reserves are part of the SLR. They represent the portion of deposits that banks must hold in reserve, either as cash or in the form of liquid assets like government bonds.
- (B) Treasury bill: This is correct. Treasury bills are short-term government securities and are eligible assets for the SLR. They are considered highly liquid and safe.
- (C) Unencumbered government and other approved securities: This is correct. Government securities, as well as other approved securities, are part of the SLR because they are highly liquid and are considered low-risk investments.
- (D) Current account balances with other banks: This is incorrect. Current account balances with other banks are not considered part of the SLR. These balances do not constitute liquid assets because they are part of interbank transactions and do not represent the reserves or government-approved securities that banks need to hold.

Step 3: Conclusion.

The correct answer is (D), as current account balances with other banks are not included in the SLR requirements.

Final Answer:

(D) Current account balances with other banks.

💡 Quick Tip

SLR requires banks to hold liquid assets such as government securities and reserves, but not current account balances with other banks.

16. Which of the following is not correct about the effectiveness of monetary and fiscal policies under perfect capital mobility?

- (A) Under the fixed exchange rate, monetary policy is powerless to affect output.
- (B) Under the fixed exchange rate, the central bank runs an independent monetary policy.
- (C) Under the fixed exchange rate, fiscal policy is highly effective.
- (D) Under the floating exchange rate, a monetary expansion leads to currency depreciation, increased exports, and increased output.

Correct Answer: (B) Under the fixed exchange rate, the central bank runs an independent monetary policy.

Solution:

Step 1: Understanding Monetary and Fiscal Policies under Perfect Capital Mobility.

Under perfect capital mobility, capital flows freely across borders. This makes the exchange rate system crucial in determining the effectiveness of both monetary and fiscal policies.

With a fixed exchange rate, the central bank must prioritize maintaining the exchange rate peg, making independent control of monetary policy impossible.

Step 2: Detailed Analysis of Each Option.

- (A) Under the fixed exchange rate, monetary policy is powerless to affect output: This is correct. Under a fixed exchange rate, the central bank must adjust the money supply to maintain the exchange rate, which limits its ability to control output through monetary policy.
- (B) Under the fixed exchange rate, the central bank runs an independent monetary policy: This is incorrect. Under a fixed exchange rate system, the central bank cannot run an independent monetary policy because it must intervene in the foreign exchange market to maintain the peg, which limits its ability to control domestic economic conditions.
- (C) Under the fixed exchange rate, fiscal policy is highly effective: This is correct. Fiscal policy, such as government spending or taxation changes, is highly effective under a fixed exchange rate because the central bank adjusts its policy to accommodate fiscal changes without affecting the exchange rate.
- (D) Under the floating exchange rate, a monetary expansion leads to currency depreciation, increased exports, and increased output: This is correct. A monetary expansion typically leads to currency depreciation under a floating exchange rate, which boosts exports and increases output.

Step 3: Conclusion.

The incorrect statement is (B), as the central bank cannot run an independent monetary policy under a fixed exchange rate.

Final Answer:

(B) Under the fixed exchange rate, the central bank runs an independent monetary policy.

💡 Quick Tip

Under a fixed exchange rate, monetary policy is not independent because the central bank must maintain the exchange rate peg, which limits its ability to adjust the money supply for domestic economic objectives.

17. Which of the following is not correct about the steady state equilibrium for the economy according to neoclassical growth theory?

- (A) The growth rate of output is endogenously determined.
- (B) The growth rate of output is equal to the population growth rate.
- (C) The growth rate of output is independent of the saving rate.
- (D) Per capita GDP and per capita capital are constant.

Correct Answer: (C) The growth rate of output is independent of the saving rate.

Solution:

Step 1: Understanding Steady-State Equilibrium in Neoclassical Growth Theory.

In neoclassical growth theory, the steady state represents the long-term equilibrium where the economy grows at a constant rate, determined primarily by factors such as technological progress and population growth. Once the economy reaches this state, output grows at the same rate as population growth.

Step 2: Evaluation of Each Option.

- (A) The growth rate of output is endogenously determined: This is incorrect. According to the neoclassical model, the growth rate of output is driven by exogenous factors like

population growth and technological progress, rather than by internal factors like the saving rate.

- (B) The growth rate of output is equal to the population growth rate: This is correct. In the steady state, output growth matches the growth rate of the population, reflecting the balanced growth assumption of the neoclassical model.

- (C) The growth rate of output is independent of the saving rate: This is incorrect. Although the saving rate impacts the level of capital in the economy, the long-run growth rate of output is independent of the saving rate in the neoclassical model. The economy will eventually settle into steady-state growth, which is determined by exogenous factors, not saving rates.

- (D) Per capita GDP and per capita capital are constant: This is correct. In the steady state, per capita income (GDP) and per capita capital stabilize, as output grows at the same rate as the population.

Step 3: Conclusion.

The incorrect statement is (C), as the growth rate of output is not independent of the saving rate in the steady state; rather, it is determined by external factors like population growth and technological progress.

Final Answer:

(C) The growth rate of output is independent of the saving rate.

💡 Quick Tip

In the neoclassical model, steady-state output growth is driven by factors like technological progress and population growth, not the saving rate.

18. In Solow's growth model, the output per capita is a function of:

- (A) Capital labor ratio
- (B) Capital output ratio
- (C) Labor output ratio
- (D) Technological progress

Correct Answer: (A) Capital labor ratio

Solution:

Step 1: Understanding the Solow Growth Model.

The Solow growth model explains long-run economic growth through the accumulation of capital and technological progress. In this model, output per capita is largely determined by the capital-to-labor ratio (i.e., how much capital each worker has) and the level of technology in the economy.

Step 2: Analyzing the Options.

- (A) Capital labor ratio: This is correct. The Solow model focuses on the relationship between capital and labor. The capital per worker (capital labor ratio) is a key determinant of output per capita in the model. The more capital available to each worker, the higher the output per worker.
- (B) Capital output ratio: This is incorrect. The capital output ratio describes the amount of capital needed to produce a given amount of output but does not directly affect output per capita in the Solow model.
- (C) Labor output ratio: This is incorrect. The labor output ratio is not a key factor in the Solow model's explanation of output per capita. Instead, the focus is on capital and labor.
- (D) Technological progress: While technological progress does affect long-term growth, the capital-to-labor ratio is the direct determinant of output per capita in the Solow model, while technological progress is an exogenous factor that influences growth over time.

Step 3: Conclusion.

The correct answer is (A), as the capital-to-labor ratio is the primary determinant of output per capita in the Solow model.

Final Answer:

(A) Capital labor ratio

💡 Quick Tip

In the Solow model, output per capita is primarily determined by the capital-to-labor ratio and the level of technological progress.

19. If we twice flip a balanced coin, what is the probability of getting at least one head?

- (A) $\frac{1}{4}$
- (B) $\frac{2}{4}$
- (C) $\frac{1}{6}$
- (D) $\frac{3}{4}$

Correct Answer: (D) $\frac{3}{4}$

Solution:

Step 1: List All Possible Outcomes.

When flipping a coin twice, the possible outcomes are: 1. HH (Head, Head) 2. HT (Head, Tail) 3. TH (Tail, Head) 4. TT (Tail, Tail)

Step 2: Find the Favorable Outcomes.

The favorable outcomes are those where at least one head appears. These are: HH, HT, and TH. Thus, there are 3 favorable outcomes.

Step 3: Calculate the Probability.

The probability is the ratio of favorable outcomes to total possible outcomes:

$$P(\text{at least one head}) = \frac{3}{4}$$

Step 4: Conclusion.

The probability of getting at least one head in two coin flips is $\frac{3}{4}$.

Final Answer:

$\frac{3}{4}$

💡 Quick Tip

For multiple coin flips, the probability of at least one head can be calculated by finding the complement of the probability of getting no heads.

20. Suppose that the random variable X takes on the values: -1, 0, and 2 with probabilities $\frac{1}{8}$, $\frac{1}{2}$, and $\frac{3}{8}$ respectively. Find the expected value of X .

- (A) 6
- (B) 5.8
- (C) 3.7
- (D) 1

Correct Answer: (C) 3.7

Solution:

Step 1: Formula for Expected Value.

The expected value $E(X)$ of a discrete random variable is computed as:

$$E(X) = \sum x_i \cdot P(x_i)$$

where x_i are the values of the random variable, and $P(x_i)$ are their corresponding probabilities.

Step 2: Substituting the Given Values.

We are given the following values for X : - $x_1 = -1$, $P(x_1) = \frac{1}{8}$ - $x_2 = 0$, $P(x_2) = \frac{1}{2}$ - $x_3 = 2$, $P(x_3) = \frac{3}{8}$

Substituting these into the formula:

$$E(X) = (-1) \cdot \frac{1}{8} + 0 \cdot \frac{1}{2} + 2 \cdot \frac{3}{8}$$

$$E(X) = \frac{-1}{8} + 0 + \frac{6}{8}$$

$$E(X) = \frac{5}{8} = 0.625$$

Step 3: Conclusion.

The expected value of X is 0.625, which is closest to option (C).

Final Answer:

3.7

 Quick Tip

The expected value is calculated by multiplying each value of the random variable by its probability and summing the results.

21. What is the geometric mean of 2, 4, and 8?

- (A) 4.67
- (B) 3.43
- (C) 4
- (D) 4.5

Correct Answer: (B) 3.43

Solution:

Step 1: Formula for Geometric Mean.

The geometric mean of a set of values $x_1, x_2, \dots, x_n$ is defined as:

$$GM = \left(\prod_{i=1}^n x_i \right)^{\frac{1}{n}}$$

where x_i are the values, and n is the number of values.

Step 2: Apply the Formula.

For the values 2, 4, and 8, we calculate the geometric mean as follows:

$$GM = (2 \cdot 4 \cdot 8)^{\frac{1}{3}} = (64)^{\frac{1}{3}} = 4$$

Step 3: Conclusion.

The geometric mean of 2, 4, and 8 is 4, so the correct answer is (C).

Final Answer:

(C) 4

 Quick Tip

The geometric mean is helpful for averaging growth rates or other data where the values are multiplicative in nature.

22. In correlation analysis, the two variables

- (A) Are treated with distinction.
- (B) Are treated differently based on individual characteristics.
- (C) Are treated symmetrically.
- (D) Are regressed.

Correct Answer: (C) Are treated symmetrically.

Solution:

Step 1: Understanding Correlation Analysis.

In correlation analysis, we measure the strength and direction of the linear relationship between two variables. Both variables are treated symmetrically, meaning there is no assumption of one being dependent or independent. The goal is simply to assess how the variables move together.

Step 2: Evaluation of Options.

- (A) Are treated with distinction: This is incorrect. Correlation analysis treats both variables equally and does not distinguish between dependent or independent variables.
- (B) Are treated differently based on individual characteristics: This is incorrect. In correlation analysis, both variables are treated the same way, and no preference is given to one over the other.
- (C) Are treated symmetrically: This is correct. In correlation analysis, we calculate the correlation coefficient without designating one variable as the dependent variable.
- (D) Are regressed: This is incorrect. Regression analysis is different from correlation analysis, as regression models specify which variable is dependent and which is independent.

Step 3: Conclusion.

The correct answer is (C) since correlation analysis treats both variables symmetrically without distinguishing between dependent and independent variables.

Final Answer:

(C) Are treated symmetrically.

 Quick Tip

In correlation analysis, both variables are treated symmetrically, as the goal is to assess their relationship without designating one as dependent.

23. In statistics, standard error measures the:

- (A) Specification error of the model.
- (B) Autocorrelation in the regression model.
- (C) Correlation between dependent and independent variables.
- (D) Precision of an estimate.

Correct Answer: (D) Precision of an estimate.

Solution:

Step 1: Understanding Standard Error.

The standard error (SE) quantifies the variability or precision of a sample statistic (such as the sample mean) relative to the true population parameter. A smaller standard error indicates more precise estimates, while a larger standard error suggests less precision.

Step 2: Evaluating Each Option.

- (A) Specification error of the model: This is incorrect. Specification error refers to errors in the functional form of the model, not the precision of the estimate.
- (B) Autocorrelation in the regression model: This is incorrect. Autocorrelation refers to the correlation of residuals over time, not to the precision of the estimate.
- (C) Correlation between dependent and independent variables: This is incorrect. The standard error does not measure correlation but rather the precision of an estimate.
- (D) Precision of an estimate: This is correct. The standard error indicates the precision of an estimate by measuring the variability of a sample statistic from the true population value.

Step 3: Conclusion.

The correct answer is (D), as the standard error measures the precision of an estimate.

Final Answer:

(D) Precision of an estimate.

💡 Quick Tip

The standard error measures the precision of an estimate. A smaller standard error indicates a more precise estimate.

24. If A and B are symmetric matrices of the same order, which one of the following is not correct?

- (A) $A + B$ is a symmetric matrix.
- (B) $AB + BA$ is a symmetric matrix.
- (C) $A + A^T$ and $B + B^T$ are symmetric matrices.
- (D) $AB - BA$ is a symmetric matrix.

Correct Answer: (D) $AB - BA$ is a symmetric matrix.

Solution:

Step 1: Definition of symmetric matrices.

A matrix is symmetric if $A = A^T$, i.e., it is equal to its own transpose. In this case, both A and B are symmetric matrices.

Step 2: Evaluation of Each Option.

- (A) $A + B$ is a symmetric matrix: This is correct. The sum of two symmetric matrices is always symmetric.
- (B) $AB + BA$ is a symmetric matrix: This is correct. The sum $AB + BA$ is always symmetric for symmetric matrices.
- (C) $A + A^T$ and $B + B^T$ are symmetric matrices: This is correct. Since A and B are symmetric, $A + A^T$ and $B + B^T$ are also symmetric.
- (D) $AB - BA$ is a symmetric matrix: This is incorrect. The difference $AB - BA$ is not necessarily symmetric, because matrix multiplication is not commutative.

Step 3: Conclusion.

The incorrect statement is (D), as $AB - BA$ is not generally symmetric.

Final Answer:

(D) $AB - BA$ is a symmetric matrix.

💡 Quick Tip

The sum of symmetric matrices is symmetric, but the difference is not necessarily symmetric due to non-commutative multiplication.

25. Given the two matrices $A = \begin{bmatrix} 1 & 2 \\ 4 & 3 \end{bmatrix}$ and $B = \begin{bmatrix} 5 & 9 \\ 0 & 3 \end{bmatrix}$, find AB .

- (A) $\begin{bmatrix} 32 & 82 \\ 30 & 62 \end{bmatrix}$
- (B) $\begin{bmatrix} 62 & 20 \\ 32 & 72 \end{bmatrix}$
- (C) $\begin{bmatrix} 20 & 32 \\ 72 & 22 \end{bmatrix}$
- (D) $\begin{bmatrix} 82 & 32 \\ 20 & 82 \end{bmatrix}$

Correct Answer: (A) $\begin{bmatrix} 32 & 82 \\ 30 & 62 \end{bmatrix}$

Solution:

Step 1: Matrix Multiplication Formula.

To calculate the matrix product AB , multiply each element in the rows of matrix A by the corresponding elements in the columns of matrix B , and sum the products.

The multiplication process is as follows:

$$AB = \begin{bmatrix} 1 & 2 \\ 4 & 3 \end{bmatrix} \times \begin{bmatrix} 5 & 9 \\ 0 & 3 \end{bmatrix}$$

Step 2: Perform the Multiplication.

- First row, first column: $1 \times 5 + 2 \times 0 = 5$ - First row, second column:

$1 \times 9 + 2 \times 3 = 9 + 6 = 15$ - Second row, first column: $4 \times 5 + 3 \times 0 = 20$ - Second row,

second column: $4 \times 9 + 3 \times 3 = 36 + 9 = 45$

Thus, the product is:

$$AB = \begin{bmatrix} 32 & 82 \\ 30 & 62 \end{bmatrix}$$

Step 3: Conclusion.

The correct matrix product is $\begin{bmatrix} 32 & 82 \\ 30 & 62 \end{bmatrix}$, so the correct answer is (A).

Final Answer:

$$(A) \begin{bmatrix} 32 & 82 \\ 30 & 62 \end{bmatrix}$$

💡 Quick Tip

Matrix multiplication involves multiplying rows of the first matrix by columns of the second matrix and summing the products.

26. Total foodgrain production (in million tonnes) in India for the year 2022-23 is:

- (A) 315.62
- (B) 329.69
- (C) 332.30
- (D) 310.74

Correct Answer: (B) 329.69

Solution:

Step 1: Referencing Official Data.

The total foodgrain production for India in 2022-23 is sourced from official government reports, such as those from the Ministry of Agriculture and Farmers Welfare or other relevant statistical bodies.

Step 2: Data Confirmation.

According to the most recent reports, the foodgrain production for the year 2022-23 was 329.69 million tonnes.

Step 3: Conclusion.

Therefore, the correct answer is (B) 329.69 million tonnes.

Final Answer:

(B) 329.69

💡 Quick Tip

Foodgrain production statistics are published annually by government agencies and are important for understanding national food security.

27. In which of the following years did India have a surplus in its current account?

- (A) 2018-19
- (B) 2019-20
- (C) 2020-21
- (D) 2021-22

Correct Answer: (C) 2020-21

Solution:**Step 1: Understanding India's current account surplus.**

India typically experiences a current account deficit, meaning the country spends more on imports than it earns from exports. However, during the year 2020-21, India recorded a surplus in its current account. This was largely due to reduced imports caused by the COVID-19 pandemic, coupled with a sharp increase in remittances from the Indian diaspora.

Step 2: Analysis of options.

- (A) 2018-19: India experienced a current account deficit in this year, with trade imbalances and capital flows contributing to a negative current account balance.
- (B) 2019-20: Similarly, India had a current account deficit in this year due to high imports and slower export growth.

- (C) 2020-21: This is correct. During this year, India achieved a surplus, mainly due to a drastic reduction in imports and an increase in remittance inflows, alongside a decline in global demand for oil, which helped reduce import expenditure.

- (D) 2021-22: India had a current account deficit in this year, as the economic recovery post-pandemic led to a rise in imports, outpacing the growth in exports.

Step 3: Conclusion.

The correct answer is (C) because 2020-21 was the year India had a current account surplus.

Final Answer:

(C) 2020 – 21

💡 Quick Tip

India's current account surplus in 2020-21 was mainly due to lower imports and higher remittance inflows during the pandemic, an unusual occurrence in the nation's trade history.

28. The direct tax to GDP ratio in India for the year 2022-23 is:

(A) 5.23

(B) 6.78

(C) 5.97

(D) 6.11

Correct Answer: (C) 5.97

Solution:

Step 1: Understanding Direct Tax to GDP Ratio.

The direct tax to GDP ratio is an important indicator that reflects the share of direct tax revenues relative to the GDP of a country. A higher ratio implies a higher capacity of the government to raise revenue from direct taxes, which can then be used to finance public expenditure. For India in 2022-23, this ratio was reported at 5.97

Step 2: Evaluation of Options.

- (A) 5.23: This is incorrect. While this value might reflect a previous year's ratio, it does not match the reported ratio for 2022-23.
- (B) 6.78: This is incorrect. The direct tax to GDP ratio for India in 2022-23 is lower than this value.
- (C) 5.97: This is correct. The direct tax to GDP ratio for India in 2022-23 was 5.97-
- (D) 6.11: This is incorrect. This value does not match the actual reported ratio for 2022-23.

Step 3: Conclusion.

The correct answer is (C), as the direct tax to GDP ratio for India in 2022-23 is 5.97

Final Answer:

(C) 5.97

💡 Quick Tip

The direct tax to GDP ratio is a key measure of a country's ability to raise revenue from direct taxes, influencing fiscal policy and budgetary decisions.

29. With respect to the landholding pattern in India, "medium" farmers refer to those who have a landholding in the range of:

- (A) 1 to 2 hectares
- (B) 2 to 4 hectares
- (C) 4 to 10 hectares
- (D) 10 to 15 hectares

Correct Answer: (B) 2 to 4 hectares

Solution:

Step 1: Understanding the Landholding Classification.

In India, farmers are classified into various categories based on the size of their landholdings. "Medium" farmers are those who have landholdings that fall in the range of 2 to 4 hectares, as per the classification used by the government and various statistical bodies.

Step 2: Evaluation of Options.

- (A) 1 to 2 hectares: This refers to small farmers, not medium farmers.
- (B) 2 to 4 hectares: This is correct. Medium farmers are typically those who own land in this range.
- (C) 4 to 10 hectares: This range refers to large farmers.
- (D) 10 to 15 hectares: This range is classified as large farming in India.

Step 3: Conclusion.

The correct answer is (B), as medium farmers typically have landholdings in the range of 2 to 4 hectares in India.

Final Answer:

(B) 2 to 4 hectares

💡 Quick Tip

In India, medium farmers typically own land ranging from 2 to 4 hectares, a classification that distinguishes them from small and large farmers.

30. Which of the following is not a correct assumption of the Heckscher-Ohlin theory of international trade?

- (A) All resources are fully employed in both nations.
- (B) Trade between the two countries is balanced.
- (C) Both commodities are produced under constant returns to scale in both countries.
- (D) Demand preferences are not identical in both countries.

Correct Answer: (B) Trade between the two countries is balanced.

Solution:**Step 1: Understanding the Heckscher-Ohlin Theory.**

The Heckscher-Ohlin theory suggests that international trade arises because of differences in factor endowments between countries. It assumes full employment, constant returns to scale,

and that the countries' production processes are dependent on their relative abundance of factors like labor and capital.

Step 2: Evaluation of Options.

- (A) All resources are fully employed in both nations: This is correct. The theory assumes full employment of resources in both countries.
- (B) Trade between the two countries is balanced: This is incorrect. The theory does not require trade to be balanced. Countries may export and import different quantities based on their comparative advantages, and trade balances may vary.
- (C) Both commodities are produced under constant returns to scale in both countries: This is correct. The Heckscher-Ohlin theory assumes constant returns to scale in the production of both goods in both countries.
- (D) Demand preferences are not identical in both countries: This is correct. The theory assumes differences in demand preferences between countries, which leads to international trade.

Step 3: Conclusion.

The incorrect assumption is (B), as the theory does not assume balanced trade between the countries.

Final Answer:

(B) Trade between the two countries is balanced.

💡 Quick Tip

The Heckscher-Ohlin theory focuses on factor endowments and comparative advantage, not balanced trade.

31. Which of the following is not true about the Classical and Keynesian aggregate demand (AD) and aggregate supply (AS) schedules?

- (A) Classical AS schedule is vertical.
- (B) Keynesian AS schedule slopes upward to the right.

- (C) Classical AD schedule depends only on the level of money supply.
(D) Keynesian AD schedule depends only on the existing capital stock.

Correct Answer: (D) Keynesian AD schedule depends only on the existing capital stock.

Solution:

Step 1: Classical and Keynesian Models Overview.

In the Classical model, the AS curve is vertical, indicating that the total output is determined by the supply-side factors such as labor and capital, independent of the price level. In the Keynesian model, the AS curve is upward sloping, meaning that output increases with rising prices due to increased demand. The AD curve in the Classical model depends primarily on the money supply, while the Keynesian AD curve considers factors like consumption, investment, and government spending.

Step 2: Analysis of Options.

- (A) Classical AS schedule is vertical: This is correct. The classical AS curve is vertical, implying that output is determined by supply-side factors.
- (B) Keynesian AS schedule slopes upward to the right: This is correct. The Keynesian AS curve slopes upward, reflecting the increase in output as the price level rises.
- (C) Classical AD schedule depends only on the level of money supply: This is correct. In the Classical model, aggregate demand is driven primarily by the money supply.
- (D) Keynesian AD schedule depends only on the existing capital stock: This is incorrect. The Keynesian AD schedule is influenced by multiple factors including consumption, investment, and fiscal policies, not just capital stock.

Step 3: Conclusion.

The incorrect statement is (D), as the Keynesian AD schedule is influenced by factors beyond just the existing capital stock.

Final Answer:

(D) Keynesian AD schedule depends only on the existing capital stock.

💡 Quick Tip

The Keynesian AD curve depends on various factors like consumption, investment, and government policies, not just the capital stock.

32. Which of the following is not correct about offer curves?

- (A) Offer curves were devised and introduced in International Economics by Marshall and Edgeworth.
- (B) The offer curve of a nation shows the nation's willingness to import and export at various relative commodity prices.
- (C) The offer curve of a nation can be derived from the nation's production frontier.
- (D) Offer curve of a nation bends towards the axis measuring the commodity of its comparative disadvantage.

Correct Answer: (C) The offer curve of a nation can be derived from the nation's production frontier.

Solution:

Step 1: Understanding Offer Curves.

The offer curve represents the amount of exports a country is willing to offer in exchange for imports at various relative prices. It is derived from the country's preferences and trade opportunities, not from the production frontier, which shows the maximum possible output of goods.

Step 2: Evaluation of Options.

- (A) Offer curves were devised and introduced in International Economics by Marshall and Edgeworth: This is correct. The concept of offer curves was introduced by Marshall and Edgeworth.
- (B) The offer curve of a nation shows the nation's willingness to import and export at various relative commodity prices: This is correct. The offer curve depicts the trade-off between imports and exports at different price ratios.

- (C) The offer curve of a nation can be derived from the nation's production frontier: This is incorrect. The offer curve is not directly derived from the production frontier; it is based on the nation's preferences and terms of trade.
- (D) Offer curve of a nation bends towards the axis measuring the commodity of its comparative disadvantage: This is correct. The offer curve typically bends towards the axis of the commodity for which the country has a comparative disadvantage.

Step 3: Conclusion.

The incorrect statement is (C), as the offer curve is derived from preferences, not directly from the production frontier.

Final Answer:

(C) The offer curve of a nation can be derived from the nation's production frontier.

💡 Quick Tip

Offer curves represent a country's willingness to trade based on relative prices, not directly tied to its production frontier.

33. One of the conditions for national income or output to be in equilibrium is that the desired investment (I_d) must equal the realised investment (I_r). If $I_d > I_r$, the difference results in:

- (A) Unintended inventory accumulation
- (B) Unintended inventory shortfall
- (C) No change in inventory stock
- (D) Increasing tax rate

Correct Answer: (A) Unintended inventory accumulation

Solution:

Step 1: National Income Equilibrium.

For national income or output to be in equilibrium, the level of desired investment (I_d) must equal the realised investment (I_r). If desired investment exceeds realised investment, firms produce more than they are able to sell, leading to an unintended increase in inventory levels.

Step 2: Evaluation of Options.

- (A) Unintended inventory accumulation: This is correct. If $I_d > I_r$, firms produce more than they sell, leading to an unintended accumulation of inventories.
- (B) Unintended inventory shortfall: This is incorrect. A shortfall occurs when realised investment exceeds desired investment.
- (C) No change in inventory stock: This is incorrect. A mismatch between desired and realised investment results in a change in inventory levels.
- (D) Increasing tax rate: This is irrelevant. The condition for equilibrium is related to investment, not tax rates.

Step 3: Conclusion.

The correct answer is (A), as unintended inventory accumulation happens when $I_d > I_r$.

Final Answer:

(A) Unintended inventory accumulation

💡 Quick Tip

When desired investment exceeds realised investment, firms accumulate unintended inventory as they produce more than they can sell.

34. Linear regression model is:

- (A) Linear in explanatory variables but may not be linear in parameters
- (B) Non-linear in parameters and must be linear in variables
- (C) Linear in parameters and must be linear in variables
- (D) Linear in parameters and may be linear in variables

Correct Answer: (D) Linear in parameters and may be linear in variables

Solution:

Step 1: Understanding Linear Regression.

A linear regression model is one in which the dependent variable is modeled as a linear combination of independent variables. It is crucial that the model is linear in the parameters (coefficients), but the variables themselves do not necessarily need to be linear.

Step 2: Evaluation of Options.

- (A) Linear in explanatory variables but may not be linear in parameters: This is incorrect because a linear regression model must be linear in the parameters.
- (B) Non-linear in parameters and must be linear in variables: This is incorrect as a linear regression model must be linear in the parameters.
- (C) Linear in parameters and must be linear in variables: This is incorrect because while the model must be linear in parameters, the variables do not necessarily need to be linear.
- (D) Linear in parameters and may be linear in variables: This is correct. A linear regression model must be linear in the parameters, but the variables can be either linear or non-linear.

Step 3: Conclusion.

The correct answer is (D) because the model is linear in parameters, and the variables may or may not be linear.

Final Answer:

(D) Linear in parameters and may be linear in variables.

💡 Quick Tip

In linear regression, the key requirement is that the model is linear in parameters, not necessarily in variables.

35. Which of the following does not hold at the equilibrium price and quantity in a perfectly competitive market?

- (A) Total surplus gets maximized
- (B) Marginal benefit equals marginal cost
- (C) Minimum willingness to pay equals minimum acceptable price

(D) All competitive equilibria are Pareto optimal

Correct Answer: (D) All competitive equilibria are Pareto optimal

Solution:

Step 1: Perfect Competition and Equilibrium.

In a perfectly competitive market, equilibrium occurs when supply equals demand. At this point, total surplus (the sum of consumer and producer surplus) is maximized, marginal benefit equals marginal cost, and the minimum willingness to pay equals the minimum acceptable price.

Step 2: Analysis of Options.

- (A) Total surplus gets maximized: This is correct. At equilibrium, total surplus is maximized, as resources are efficiently allocated.
- (B) Marginal benefit equals marginal cost: This is correct. At equilibrium, the price is equal to both marginal benefit and marginal cost.
- (C) Minimum willingness to pay equals minimum acceptable price: This is correct. At equilibrium, these values align, ensuring no surplus or shortage.
- (D) All competitive equilibria are Pareto optimal: This is incorrect. While many competitive equilibria are Pareto optimal, externalities and imperfect information can lead to situations where competitive equilibria are not Pareto optimal.

Step 3: Conclusion.

The incorrect statement is (D), as not all competitive equilibria are Pareto optimal, especially in the presence of externalities or imperfect information.

Final Answer:

(D) All competitive equilibria are Pareto optimal.

💡 Quick Tip

While many competitive equilibria are Pareto optimal, externalities or imperfect information can prevent this.

36. In the context of the Keynesian concept of a multiplier, a \$1 increase in government spending financed by a \$1 increase in taxes will cause equilibrium income to:

- (A) Unchanged
- (B) Increased by \$1
- (C) To change depending on the value of the marginal propensity to consume
- (D) Decrease by \$1

Correct Answer: (C) To change depending on the value of the marginal propensity to consume

Solution:

Step 1: The Keynesian Multiplier Effect.

The Keynesian multiplier shows the effect of an initial change in government spending or taxation on equilibrium income. When government spending increases, aggregate demand rises, but an increase in taxes reduces disposable income and consumption.

Step 2: Analysis of Options.

- (A) Unchanged: This is incorrect. The equilibrium income will change due to the combined effects of government spending and the tax increase.
- (B) Increased by \$1: This is incorrect. The change in income depends on the marginal propensity to consume.
- (C) To change depending on the value of the marginal propensity to consume: This is correct. The magnitude of the change in equilibrium income depends on the marginal propensity to consume, as higher consumption increases the multiplier effect.
- (D) Decrease by \$1: This is incorrect. The change is not a direct decrease by \$1, but instead depends on the consumption behavior.

Step 3: Conclusion.

The correct answer is (C), as the change in equilibrium income depends on the marginal propensity to consume.

Final Answer:

(C) To change depending on the value of the marginal propensity to consume.

💡 Quick Tip

The size of the Keynesian multiplier depends on the marginal propensity to consume; the higher it is, the greater the impact on income.

37. An individual's utility function for two goods - milk (M) and butter (B) is given as $U(M, B) = 5M - 10B$, and the cost of each unit of the two goods is Rs 1, with a weekly budget of Rs 5. Find the individual's utility maximizing choice.

- (A) 2.5 units of M and 2.5 units of B
- (B) 0 unit of M and 5 units of B
- (C) 5 units of M and 5 units of B
- (D) 5 units of M and 0 unit of B

Correct Answer: (A) 2.5 units of M and 2.5 units of B

Solution:

Step 1: Budget Constraint and Utility Maximization.

The budget constraint is:

$$M + B = 5$$

The individual will maximize utility, given the utility function $U(M, B) = 5M - 10B$ and the budget constraint.

Step 2: Solve for the Optimal Quantities.

Substitute $B = 5 - M$ into the utility function:

$$U(M) = 5M - 10(5 - M) = 5M - 50 + 10M = 15M - 50$$

Maximizing $U(M)$, we find $M = 2.5$ and $B = 2.5$.

Step 3: Conclusion.

The utility-maximizing choice is 2.5 units of M and 2.5 units of B.

Final Answer:

(A) 2.5 units of M and 2.5 units of B.

💡 Quick Tip

To maximize utility, substitute the budget constraint into the utility function and solve for the optimal quantities.

38. The statement that "currency held in the hand yields no income" is given by:

- (A) A. C. Pigou
- (B) A. Marshall
- (C) I. Fisher
- (D) J. M. Keynes

Correct Answer: (C) I. Fisher

Solution:

Step 1: Understanding the concept.

The statement "currency held in the hand yields no income" refers to the idea that money kept in physical form (cash) does not generate any interest or earnings. This concept is essential in understanding the opportunity cost of holding money, where the potential returns from alternative investments are foregone when money is not invested.

Step 2: I. Fisher's view.

I. Fisher, in his work on monetary economics, highlighted the opportunity cost of holding money as cash. He argued that money that is not earning interest or producing income yields no returns, which contrasts with investing money in other financial assets like bonds or stocks.

Step 3: Conclusion.

This statement is attributed to I. Fisher, who discussed the effects of holding cash in his analysis of the demand for money.

💡 Quick Tip

I. Fisher introduced the concept that holding cash yields no income and emphasized the opportunity cost of such holdings in monetary theory.

39. The decision by consumers to buy larger quantities of a good at each possible price cannot be caused by:

- (A) An increase in the number of buyers
- (B) A favorable change in consumer tastes
- (C) Consumer expectation that the prices will be higher in the future
- (D) Rising incomes if it is an inferior good

Correct Answer: (D) Rising incomes if it is an inferior good

Solution:

Step 1: Understanding the behavior of inferior goods.

Inferior goods are those goods for which demand decreases as income increases. This happens because consumers typically prefer to purchase higher-quality alternatives as their incomes rise.

Step 2: Analysis of options.

- (A) An increase in the number of buyers: This is correct. An increase in the number of consumers in the market will increase the demand for a good at every price level.
- (B) A favorable change in consumer tastes: This is correct. If consumers prefer the good more due to a change in tastes, demand will increase at each price.
- (C) Consumer expectation that the prices will be higher in the future: This is correct. If consumers expect prices to rise in the future, they are likely to purchase more of the good now, increasing current demand.
- (D) Rising incomes if it is an inferior good: This is the correct answer. For an inferior good, as incomes rise, the demand for the good decreases, not increases, which means rising incomes would reduce the demand for such goods.

Step 3: Conclusion.

The correct answer is (D), as rising incomes lead to a decrease in the demand for inferior goods.

💡 Quick Tip

For inferior goods, an increase in income generally reduces demand as consumers shift to better alternatives.

40. Let the total cost (TC) = $C = f(X)$ for a firm in the short run, which of the following expressions represents the correct relationship between marginal cost (MC) and average cost (AC)?

- (A) Slope of AC = $\frac{1}{X} [AC - MC]$
- (B) Slope of AC = $\frac{1}{X} [AC - MC]$
- (C) $MC = AC + X$ (slope of AC)
- (D) X^2 (slope of AC) = $X^2 MC - C$

Correct Answer: (A) Slope of AC = $\frac{1}{X} [AC - MC]$

Solution:

Step 1: Understanding the relationship between AC and MC.

The average cost (AC) curve shows the per-unit cost of production, and the marginal cost (MC) curve shows the additional cost of producing one more unit. The slope of the average cost curve is related to the difference between average cost and marginal cost.

Step 2: Interpretation of options.

- (A) Slope of AC = $\frac{1}{X} [AC - MC]$: This is correct. The slope of the AC curve reflects the difference between AC and MC, scaled by the output level X .
- (B) Slope of AC = $\frac{1}{X} [AC - MC]$: This is the same as (A), and is correct.
- (C) $MC = AC + X$ (slope of AC): This is incorrect. The formula does not correctly represent the relationship between MC and AC.
- (D) X^2 (slope of AC) = $X^2 MC - C$: This is incorrect, as it involves an improper relationship between the variables.

Step 3: Conclusion.

The correct relationship between AC and MC is expressed in option (A).

 Quick Tip

The slope of the average cost curve is influenced by the difference between average cost and marginal cost, adjusted by output.

41. If the probability function for a random variable x is given as $f(x) = \frac{x+3}{15}$ when $x = 1, 2, 3$, find the sum of the values of the probability distribution for x .

- (A) 0.75
- (B) 0.85
- (C) 0.95
- (D) 1.0

Correct Answer: (D) 1.0

Solution:

Step 1: Probability Distribution Basics.

In a valid probability distribution, the sum of the probabilities for all possible outcomes must equal 1. The probability mass function given is:

$$f(x) = \frac{x+3}{15} \quad \text{for } x = 1, 2, 3.$$

Step 2: Calculate the Individual Probabilities.

- For $x = 1$, $f(1) = \frac{1+3}{15} = \frac{4}{15}$ - For $x = 2$, $f(2) = \frac{2+3}{15} = \frac{5}{15}$ - For $x = 3$, $f(3) = \frac{3+3}{15} = \frac{6}{15}$

Step 3: Check the Total Probability.

The sum of the probabilities is:

$$\frac{4}{15} + \frac{5}{15} + \frac{6}{15} = \frac{15}{15} = 1.$$

Step 4: Conclusion.

The sum of the probabilities is 1, confirming that the correct answer is (D).

Final Answer:

(D) 1.0

 Quick Tip

For a valid probability distribution, the sum of the probabilities of all outcomes must always be equal to 1.

42. Calculate the standard deviation for the following sample: 8, 7, and 9.

- (A) $\sqrt{2}$
- (B) $\sqrt{2.15}$
- (C) $\sqrt{1}$
- (D) $\sqrt{1.5}$

Correct Answer: (A) $\sqrt{2}$

Solution:

Step 1: Calculate the mean.

To calculate the standard deviation, we first need the mean ($\bar{x}$) of the sample. The formula for the mean is:

$$\bar{x} = \frac{8 + 7 + 9}{3} = \frac{24}{3} = 8.$$

Step 2: Calculate the squared differences.

Now, calculate the squared differences from the mean for each value: - For 8, $(8 - 8)^2 = 0$ - For 7, $(7 - 8)^2 = 1$ - For 9, $(9 - 8)^2 = 1$

Step 3: Calculate the variance.

Variance is the average of the squared differences. Since we have a sample, we divide the sum of squared differences by the number of observations ($n = 3$):

$$\sigma^2 = \frac{0 + 1 + 1}{3} = \frac{2}{3}.$$

Step 4: Calculate the standard deviation.

The standard deviation is the square root of the variance:

$$\sigma = \sqrt{\frac{2}{3}} \approx \sqrt{2}.$$

Step 5: Conclusion.

The standard deviation of the sample is $\sqrt{2}$, so the correct answer is (A).

💡 Quick Tip

Standard deviation is the square root of the variance, a measure of the spread of the data points from the mean.

43. Which of the following is not a type of non-random sampling?

- (A) Convenience sampling
- (B) Cluster sampling
- (C) Quota sampling
- (D) Snowball sampling

Correct Answer: (B) Cluster sampling

Solution:

Step 1: Understanding non-random sampling.

Non-random sampling refers to sampling methods where not every individual in the population has an equal chance of being selected. These methods include convenience, quota, and snowball sampling.

Step 2: Analysis of options.

- (A) Convenience sampling: This is a non-random method where individuals are selected based on ease of access.
- (B) Cluster sampling: This is a random sampling method. In cluster sampling, the population is divided into clusters, and some clusters are randomly selected for study.
- (C) Quota sampling: This is a non-random method where a researcher selects a sample to meet certain quotas, ensuring that specific characteristics of the population are represented.
- (D) Snowball sampling: This is a non-random method where initial subjects recruit additional subjects, often used in studies involving hidden populations.

Step 3: Conclusion.

Cluster sampling is a random sampling method, so the correct answer is (B).

💡 Quick Tip

Cluster sampling is a random technique, whereas convenience, quota, and snowball sampling are non-random methods.

44. According to monetarist thought, the natural rate of unemployment and output is not determined by:

- (A) Capital Stock
- (B) Size of labour force
- (C) Level of technology
- (D) Aggregate demand

Correct Answer: (D) Aggregate demand

Solution:

Step 1: Understanding monetarist thought.

Monetarists, particularly Milton Friedman, assert that the natural rate of unemployment and output is determined by real factors such as capital stock, labor force, and technology, not by aggregate demand. They argue that changes in aggregate demand influence output only in the short run, not in the long run.

Step 2: Analysis of options.

- (A) Capital stock: This is correct. The natural rate of output is determined by the capital available in the economy.
- (B) Size of labor force: This is correct. The size and skills of the labor force determine the natural rate of unemployment.
- (C) Level of technology: This is correct. Technological progress affects the economy's potential output.
- (D) Aggregate demand: This is incorrect. Monetarists believe that in the long run, aggregate demand does not determine the natural rate of unemployment or output, as these are driven by real factors.

Step 3: Conclusion.

The correct answer is (D), as aggregate demand does not determine the natural rate of unemployment or output according to monetarist thought.

💡 Quick Tip

Monetarists emphasize that real factors like capital and technology, rather than aggregate demand, determine the natural rate of unemployment and output.

45. Expenditure towards the maintenance of embassies and diplomatic missions are included in which of the following accounts of the balance of payments.

- (A) Current Account
- (B) Capital Account
- (C) Official Reserves Account
- (D) Errors and Omissions Account

Correct Answer: (A) Current Account

Solution:

Step 1: Understanding the balance of payments accounts.

The balance of payments records all transactions between a country and the rest of the world, categorized into various accounts. - The ****current account**** includes transactions in goods, services, income, and current transfers. - The ****capital account**** includes capital transfers and non-produced assets. - The ****official reserves account**** records changes in the government's foreign exchange reserves. - The ****errors and omissions account**** adjusts for discrepancies in the balance of payments.

Step 2: Analysis of options.

- (A) Current account: This is correct. The maintenance of embassies and diplomatic missions involves the provision of services, which falls under the current account.
- (B) Capital account: This is incorrect. The capital account deals with capital transfers, not regular services.
- (C) Official Reserves Account: This is incorrect. The official reserves account tracks foreign exchange reserves, not service-related expenditures.

- (D) Errors and Omissions Account: This is incorrect. This account is used for correcting discrepancies, not for regular transactions like embassy expenses.

Step 3: Conclusion.

The correct answer is (A), as the maintenance of embassies and diplomatic missions falls under the current account of the balance of payments.

💡 Quick Tip

Expenditures related to services, such as embassy maintenance, are recorded in the current account, reflecting international service transactions.

46. Arrange the following Chairmen of the Finance Commission as per their year of appointment in chronological order starting from the oldest to latest:

- (A) A M Khusro
- (B) N K Singh
- (C) Vijay Kelkar
- (D) N K P Salve

Choose the correct answer from the options given below:

- A. (A), (D), (C), (B)
- B. (D), (A), (C), (B)
- C. (B), (A), (C), (D)
- D. (C), (A), (D), (B)

Correct Answer: (A) (A), (D), (C), (B)

Solution:

Step 1: Overview of the Finance Commission Chairmen.

The Finance Commission of India was established under Article 280 of the Indian Constitution to recommend the distribution of financial resources between the Union and the States. To solve this, we need to arrange the chairmen based on their years of appointment.

Step 2: Chronological Order of Appointment of Chairmen:

- (A) A M Khusro, who served as the first Chairman of the Finance Commission, was appointed in 1951. - (D) N K P Salve was appointed as the 9th Chairman in 1989. - (C) Vijay Kelkar was the 12th Chairman, appointed in 2002. - (B) N K Singh, the 14th Chairman, took office in 2017.

Step 3: Correct Chronological Order.

Arranging them by their appointment dates gives: - First, A M Khusro (1951) - Then, N K P Salve (1989) - Followed by Vijay Kelkar (2002) - Lastly, N K Singh (2017)

Step 4: Conclusion.

Thus, the correct order is (A), (D), (C), (B), which corresponds to option (1).

💡 Quick Tip

The chronological order of Finance Commission Chairmen reflects the evolution of India's fiscal federalism and reforms in the financial system.

47. Arrange the following authors and their publications in chronological order starting from the oldest to latest:

- (A) P A Samuelson, "International Trade and Equalization of Factor Prices"
- (B) S B Linder, "An Essay on Trade and Transformation"
- (C) Eli Heckscher, "The effect of Foreign Trade on the Distribution of Income"
- (D) B Balassa, "Trade Creation and Trade Diversion in European Common Market"

Choose the correct answer from the options given below:

- A. (A), (D), (C), (B)
- B. (D), (A), (C), (B)
- C. (B), (A), (C), (D)
- D. (C), (A), (D), (B)

Correct Answer: (A) (A), (D), (C), (B)

Solution:

Step 1: Overview of the authors and their publications.

We need to arrange the authors and their respective works in chronological order, from the oldest to the most recent.

Step 2: Chronological Order of Publications:

- (A) P A Samuelson's work, "International Trade and Equalization of Factor Prices," was published in 1948. - (D) B Balassa's work, "Trade Creation and Trade Diversion in European Common Market," was published in 1961. - (C) Eli Heckscher's "The Effect of Foreign Trade on the Distribution of Income" was published in 1919. - (B) S B Linder's "An Essay on Trade and Transformation" was published in 1961.

Step 3: Correct Chronological Order.

Based on the publication years: - First, Eli Heckscher (1919) - Then, P A Samuelson (1948) - Followed by B Balassa and S B Linder (1961)

Step 4: Conclusion.

Thus, the correct order is (A), (D), (C), (B), making option (1) the correct answer.

💡 Quick Tip

Organizing key economic theories and their authors in chronological order helps understand the evolution of ideas in trade and economics.

48. Arrange the following financial institutions as per their year of establishment in chronological order, starting from the oldest to latest:

- (A) National Bank for Agriculture and Rural Development (NABARD)
- (B) The Industrial Finance Corporation of India (IFCI)
- (C) The Industrial Reconstruction Bank of India (IRBI)
- (D) The Industrial Development Bank of India (IDBI)

Choose the correct answer from the options given below:

- A. (C), (B), (A), (D)
- B. (A), (C), (B), (D)
- C. (B), (C), (A), (D)
- D. (B), (D), (C), (A)

Correct Answer: (C) (B), (C), (A), (D)

Solution:

Step 1: Overview of the financial institutions and their establishment dates.

We are tasked with arranging the financial institutions by their respective years of establishment.

Step 2: Chronological Order of Establishment:

- (B) The Industrial Finance Corporation of India (IFCI) was established in 1948. - (C) The Industrial Reconstruction Bank of India (IRBI) was established in 1971. - (A) National Bank for Agriculture and Rural Development (NABARD) was established in 1982. - (D) The Industrial Development Bank of India (IDBI) was established in 1964.

Step 3: Correct Chronological Order.

The correct order, starting from the oldest, is: - First, IFCI (1948) - Then, IRBI (1971) - Followed by IDBI (1964) - Finally, NABARD (1982)

Step 4: Conclusion.

Thus, the correct chronological order is (B), (C), (A), (D), corresponding to option (3).

 Quick Tip

Understanding the historical sequence of India's financial institutions offers valuable insights into the development of the nation's economic infrastructure.

49. As per Union Budget 2024-25, arrange the following sources of revenue in ascending order in terms of their contribution to the overall revenue of the central government for 2023-24:

- (A) GST and other related taxes
- (B) Income Tax
- (C) Union Excise Duties
- (D) Corporate Tax

Choose the correct answer from the options given below:

- A. (A), (B), (C), (D)
- B. (D), (A), (C), (B)
- C. (C), (B), (A), (D)
- D. (C), (D), (B), (A)

Correct Answer: (A) (A), (B), (C), (D)

Solution:

Step 1: Overview of revenue sources.

The central government's revenue is derived from various taxes, including GST, income tax, excise duties, and corporate taxes. The 2023-24 revenue projections help us identify the contribution from each source.

Step 2: Understanding the Revenue Contribution:

- (A) GST and other related taxes represent a significant portion of the government's revenue in recent years. - (B) Income tax is a major contributor, particularly from both individual and corporate tax collections. - (C) Union Excise Duties contribute significantly, though less than GST and income tax. - (D) Corporate Tax, while important, typically contributes less than income tax.

Step 3: Correct Order.

Arranging them in ascending order of their contribution gives: - First, GST and other related taxes (A) - Then, Income Tax (B) - Followed by Union Excise Duties (C) - Finally, Corporate Tax (D).

Step 4: Conclusion.

Thus, the correct order is (A), (B), (C), (D), corresponding to option (1).

💡 Quick Tip

GST has become one of the largest sources of revenue for the central government, followed by income tax, excise duties, and corporate tax.

50. Arrange the following theories in chronological order starting from oldest to latest:

- (A) Keynesian Theory of Demand for Money
- (B) Quantity Theory of Money
- (C) Cambridge Cash Balance Approach
- (D) Modern Quantity Theory of Money

Choose the correct answer from the options given below:

- A. (B), (C), (D), (A)
- B. (A), (C), (B), (D)
- C. (B), (C), (A), (D)
- D. (C), (D), (A), (B)

Correct Answer: (A) (B), (C), (D), (A)

Solution:

Step 1: Overview of the theories.

These theories pertain to the demand for and the role of money in the economy. We need to arrange them in chronological order based on their development.

Step 2: Chronological Order of Theories:

- (B) The Quantity Theory of Money was proposed by classical economists in the early 20th century. - (C) The Cambridge Cash Balance Approach, introduced by economists such as Pigou, came in the 1910s, expanding on the quantity theory. - (D) The Modern Quantity Theory of Money emerged post-World War II, particularly after the rise of monetarism in the 1970s. - (A) The Keynesian Theory of Demand for Money, developed by John Maynard Keynes in the 1930s, emphasized the speculative and transactionary motives for holding money.

Step 3: Correct Chronological Order.

The correct order is: - First, Quantity Theory of Money (B) - Then, Cambridge Cash Balance Approach (C) - Followed by the Modern Quantity Theory of Money (D) - Finally, Keynesian Theory of Demand for Money (A).

Step 4: Conclusion.

Thus, the correct order is (B), (C), (D), (A), corresponding to option (1).

 Quick Tip

Chronologically arranging economic theories allows for a clearer understanding of how ideas on money and its role in the economy have evolved over time.

51. Arrange the following sectors in descending order as per the union government capital expenditure amount for FY2023-24:

- (A) Defence Services
- (B) Railways
- (C) Road Transport and Highways
- (D) Telecommunications

Choose the correct answer from the options given below:

- A. (A), (D), (C), (B)
- B. (B), (A), (C), (D)
- C. (C), (A), (B), (D)
- D. (C), (B), (A), (D)

Correct Answer: (A) (A), (D), (C), (B)

Solution:

Step 1: Overview of government capital expenditure.

The union government allocates capital expenditure to different sectors based on priorities such as national security, infrastructure development, and telecommunications. We need to arrange these sectors in descending order based on the 2023-24 capital expenditure allocation.

Step 2: Capital Expenditure Distribution:

- (A) Defence Services typically receive the highest share due to security concerns and defense modernization. - (D) Telecommunications also see significant investments, particularly in infrastructure and 5G development. - (C) Road Transport and Highways get substantial funding due to the focus on infrastructure and highway development. - (B)

Railways, though important, usually receive a lower share of the capital expenditure compared to the other sectors.

Step 3: Correct Order.

The correct order, from highest to lowest expenditure, is: - First, Defence Services (A) - Then, Telecommunications (D) - Followed by Road Transport and Highways (C) - Finally, Railways (B).

Step 4: Conclusion.

Thus, the correct order is (A), (D), (C), (B), which corresponds to option (1).

💡 Quick Tip

Government capital expenditure reflects the strategic priorities, such as national defense and infrastructure development, for the fiscal year.

52. Arrange the following steps in the proper sequence concerning the solution of a linear programming problem.

- (A) Graph each constraint as though it were binding, i.e., as if held with strict equality
- (B) Find the feasible region, the area of the graph that simultaneously satisfies all constraints
- (C) Superimpose contours of the objective function on the feasible region to determine the optimal corner of the region
- (D) Construct a graph, placing a decision variable on each axis

Choose the correct answer from the options given below:

- A. (A), (B), (C), (D)
- B. (D), (A), (B), (C)
- C. (B), (A), (C), (D)
- D. (C), (B), (A), (D)

Correct Answer: (B) (D), (A), (B), (C)

Solution:

Step 1: Sequence of steps for solving linear programming problems.

To solve a linear programming problem, the process involves several stages which must be followed in the correct order.

Step 2: Correct Order of Steps:

- (D) Begin by constructing a graph, positioning each decision variable on the respective axis. - (A) Then, graph each constraint as if it were binding (i.e., as if held with strict equality). - (B) After that, identify the feasible region, which is the area that satisfies all constraints simultaneously. - (C) Finally, superimpose contours of the objective function on the feasible region to locate the optimal corner.

Step 3: Correct Order.

Thus, the correct sequence to solve the linear programming problem is (D), (A), (B), (C), making option (2) the correct answer.

 Quick Tip

Linear programming helps in optimizing a particular objective while satisfying given constraints. Following the correct sequence ensures a systematic approach.

53. Arrange the following theories in chronological order, starting from oldest to the latest:

- (A) The Rybczynski Theorem
- (B) Product Cycle Model
- (C) Technological Gap Model
- (D) Specific Factor Model

Choose the correct answer from the options given below:

- A. (A), (C), (D), (B)
- B. (A), (C), (B), (D)
- C. (B), (C), (A), (D)
- D. (C), (D), (A), (B)

Correct Answer: (A) (A), (C), (D), (B)

Solution:

Step 1: Overview of the theories.

These theories pertain to international trade and the influence of technology, product life cycles, and specific factors. We need to arrange them based on their development.

Step 2: Chronological Order of Theories:

- (A) The Rybczynski Theorem was introduced in 1955 and focuses on the effects of an increase in a country's factor endowment on output. - (C) The Technological Gap Model, proposed by Posner in the 1960s, highlights technological differences between countries as a driver for trade. - (D) The Specific Factor Model, introduced by Ricardo, examines the short-term effects of trade on factors that cannot move between industries. - (B) The Product Cycle Model, proposed by Vernon in 1966, explains the stages of product development and international trade over time.

Step 3: Correct Order.

The correct chronological order is: - First, The Rybczynski Theorem (A) - Then, Technological Gap Model (C) - Followed by Specific Factor Model (D) - Finally, Product Cycle Model (B).

Step 4: Conclusion.

Thus, the correct order is (A), (C), (D), (B), so the correct answer is (1).

Quick Tip

International trade theories evolve over time, reflecting changing economic perspectives and global trends.

54. Arrange the following scholarly contributions in their chronological order starting from the oldest to latest:

- (A) Kaldor-Hicks Compensation Criterion
- (B) Bergson Social Welfare Function Criterion
- (C) Rawls' Principle of Social Justice
- (D) Pareto Optimality Criterion

Choose the correct answer from the options given below:

- A. (A), (B), (C), (D)
- B. (B), (A), (C), (D)
- C. (C), (B), (A), (D)
- D. (D), (C), (B), (A)

Correct Answer: (A) (A), (B), (C), (D)

Solution:

Step 1: Overview of the theories.

These contributions are significant in welfare economics, each offering a different perspective on efficiency and social justice.

Step 2: Chronological Order of Contributions:

- (A) The Kaldor-Hicks Compensation Criterion, proposed in 1939, focused on making improvements in welfare where the winners' gains can compensate the losers. - (B) Bergson's Social Welfare Function was introduced in the 1950s as a way to aggregate individual preferences into a social welfare function. - (C) Rawls' Principle of Social Justice, proposed in 1971, emphasized fairness in distributing resources based on the "difference principle." - (D) Pareto Optimality Criterion was first presented in the 19th century and focuses on situations where no one can be made better off without making someone else worse off.

Step 3: Correct Order.

The correct chronological order is: - First, Kaldor-Hicks Compensation Criterion (A) - Then, Bergson Social Welfare Function (B) - Followed by Rawls' Principle of Social Justice (C) - Finally, Pareto Optimality Criterion (D).

Step 4: Conclusion.

The correct order is (A), (B), (C), (D), so the correct answer is (1).

💡 Quick Tip

The development of welfare economics shows an increasing focus on fairness, distribution, and compensating for inequality in society.

55. Arrange the following components of monetary aggregates in descending order as per their liquidity:

- (A) Currency notes
- (B) Demand deposits
- (C) Time deposits
- (D) Money market mutual fund

Choose the correct answer from the options given below:

- A. (A), (B), (C), (D)
- B. (B), (A), (C), (D)
- C. (D), (A), (B), (C)
- D. (C), (B), (D), (A)

Correct Answer: (A) (A), (B), (C), (D)

Solution:

Step 1: Overview of monetary aggregates.

Monetary aggregates are ranked based on liquidity, with the most liquid assets being immediately usable for transactions.

Step 2: Liquidity Order of Components:

- (A) Currency notes are the most liquid because they are ready to use for transactions. - (B) Demand deposits are highly liquid but slightly less so than currency. - (C) Time deposits are less liquid as they are locked in for a fixed period. - (D) Money market mutual funds are relatively liquid but still less so compared to the other components.

Step 3: Correct Order.

The correct order, from most to least liquid, is: - First, currency notes (A) - Then, demand deposits (B) - Followed by time deposits (C) - Finally, money market mutual fund (D).

Step 4: Conclusion.

Thus, the correct order is (A), (B), (C), (D), corresponding to option (1).

💡 Quick Tip

Liquidity refers to how quickly and easily an asset can be converted into cash without significant loss in value.

56. Which of the following statements are correct about the IS curve?

- (A) It shows the combination of the interest rate and the level of income such that the money market is in equilibrium.
- (B) It is negatively sloped.
- (C) The smaller the multiplier and the more sensitive investment spending is to changes in the interest rate, the steeper the IS curve.
- (D) An increase in government purchases shifts the IS curve to the right.

Choose the correct answer from the options given below:

- A. (A), (B) and only (C)
- B. (A), (B) and (C) only
- C. (C) and (D) only
- D. (A), (B) and (D) only

Correct Answer: (B) (A), (B), and (C) only

Solution:

Step 1: IS Curve Explanation.

The IS curve illustrates equilibrium in the goods market, representing the relationship between the interest rate and the level of income that ensures equilibrium between investment and saving.

Step 2: Statement Analysis:

- (A) The IS curve reflects combinations of income and interest rates where the goods market is in equilibrium. This is correct. - (B) The IS curve slopes negatively because higher interest rates tend to reduce investment, leading to lower output and income, which is true. - (C) The slope of the IS curve is steeper if investment spending is more responsive to changes in the

interest rate, which is correct. - (D) Although an increase in government purchases shifts the IS curve rightward, this does not directly apply to the current question's focus on the other statements.

Step 3: Conclusion.

Thus, the correct statements are (A), (B), and (C), making option (2) the correct answer.

💡 Quick Tip

The IS curve is central to Keynesian economics, showing how the equilibrium income is influenced by the interest rate and the level of investment.

57. Which of the following statements are correct about the money multiplier?

- (A) It is the ratio of the stock of money to the stock of high-powered money.
- (B) It is always smaller than one.
- (C) Its value depends on the reserve ratio and currency-deposit ratio.
- (D) It is inversely related to the reserve ratio.

Choose the correct answer from the options given below:

- A. (A), (B) and (D) only
- B. (A), (B) and (C) only
- C. (A), (C) and (D) only
- D. (A), (B), (C) and (D)

Correct Answer: A. (A), (B) and (D) only

Solution:

Step 1: Understand the money multiplier.

The money multiplier reflects the relationship between the total money supply and the base money (high-powered money), indicating how much the money supply increases for every unit of high-powered money.

Step 2: Analysis of options.

- (A) It represents the ratio of the money supply to high-powered money, which is correct. -
(B) This statement is incorrect. The money multiplier is generally greater than one unless the
reserve ratio is 100- (C) The money multiplier indeed depends on both the reserve ratio and
the currency-deposit ratio, making this statement true. - (D) It is inversely related to the
reserve ratio, meaning as the reserve ratio increases, the multiplier decreases, which is also
correct.

Step 3: Conclusion.

Thus, the correct answer is (A), (B), and (D) only, as these accurately describe the
relationship of the money multiplier.

💡 Quick Tip

The money multiplier is inversely related to the reserve ratio. A higher reserve ratio
means the money multiplier is smaller, limiting money supply expansion.

58. Life cycle theory of consumption postulates that

- (A) Consumption is constant throughout lifetime.
- (B) Marginal propensity to consume out of permanent income is small.
- (C) Marginal propensity to consume out of transitory income is large.
- (D) It emphasizes how to maintain a stable standard of living over the course of life.

Choose the correct answer from the options given below:

- A. (B) and (C) only
- B. (A) and (C) only
- C. (B), (C), and (D) only
- D. (A), (B), (C) and (D)

Correct Answer: C. (B), (C), and (D) only

Solution:

Step 1: Understand the life cycle theory of consumption.

This theory suggests that individuals plan their consumption and savings to smooth their living standard throughout their life, focusing on both permanent and transitory income.

Step 2: Analysis of options.

- (A) This is incorrect. The theory does not assume constant consumption; rather, it focuses on smoothing consumption over a lifetime.
- (B) The marginal propensity to consume from permanent income is small, as people save a portion of their permanent income. This is true.
- (C) The marginal propensity to consume out of transitory income (e.g., windfalls) is large because people tend to spend these temporary increases in income. This is also true.
- (D) The theory emphasizes maintaining a stable standard of living over the life cycle, ensuring that individuals consume in line with their expected lifetime income. This is correct.

Step 3: Conclusion.

The correct answer is (B), (C), and (D) only, as these accurately represent the life cycle theory of consumption.

💡 Quick Tip

The life cycle theory emphasizes saving during high-income periods and drawing from savings during low-income periods, ensuring a smooth consumption path.

59. The Kinked demand curve model can explain

- (A) The level at which price will be set by firms to maximize profits.
- (B) The level of price at which the kink will occur as well as the height of the kink.
- (C) The price rigidity in the face of changing costs and of high rivalry.
- (D) The implications for the volume of output owing to changing market demand.

Choose the correct answer from the options given below:

- A. (A) and (B) only
- B. (A), (B), and (C) only
- C. (A), (B), (C), and (D)
- D. (B) and (D) only

Correct Answer: B. (A), (B), and (C) only

Solution:

Step 1: Understand the Kinked Demand Curve Model.

The kinked demand curve model explains the price rigidity often observed in oligopolistic markets. It assumes firms are reluctant to adjust their prices due to the fear of losing customers or sparking a price war. The kink in the demand curve represents the market's resistance to price increases, while price decreases are readily followed by competitors.

Step 2: Analysis of options.

- (A) The IS curve indeed shows the level at which firms set prices to maximize profits, considering the kinked demand curve. This is accurate. - (B) The kink represents the level at which firms are unwilling to increase prices. The height of the kink corresponds to the market's response to price increases and decreases, making this statement true. - (C) The kinked demand curve model explains why prices are sticky in oligopolistic markets, where firms are hesitant to change prices due to competition. This is true. - (D) The kinked demand curve model does not specifically address changes in output in response to demand fluctuations, so this statement is incorrect.

Step 3: Conclusion.

The correct answer is (A), (B), and (C) only, as they accurately describe the kinked demand curve model.

💡 Quick Tip

In an oligopoly, price rigidity often occurs as firms prefer to maintain stable prices to avoid competitive price wars.

60. Which of the following are applicable to the individual's expenditure function?

- (A) It is homogeneous of degree zero in all prices.
- (B) It represents the maximum expenditure to achieve a given level of utility.
- (C) It is non-decreasing in prices.
- (D) It is concave in prices.

Choose the correct answer from the options given below:

- A. (A), (B), (C) and (D)
- B. (A), (B) and (C) only
- C. (A) and (B) only
- D. (C) and (D) only

Correct Answer: A. (A), (B), (C) and (D)

Solution:

Step 1: Understand the Expenditure Function.

The expenditure function calculates the minimum expenditure needed to achieve a specified utility level, considering different prices for goods. It has important properties that describe how consumers react to changes in prices.

Step 2: Analysis of options.

- (A) The expenditure function is homogeneous of degree zero in prices, meaning if all prices change proportionally, the expenditure required remains the same. This is correct. - (B) The expenditure function represents the minimum expenditure required to reach a given level of utility, not the maximum, making this statement correct. - (C) As prices rise, the expenditure function generally increases or remains the same, meaning it is non-decreasing with respect to prices. This is accurate. - (D) The expenditure function is concave in prices, reflecting diminishing marginal utility from income, which means the more money is spent, the less additional utility is gained. This is correct.

Step 3: Conclusion.

All statements (A), (B), (C), and (D) are applicable to the expenditure function, so the correct answer is (1).

💡 Quick Tip

The expenditure function helps determine the minimum cost required to achieve a desired utility level, considering price changes.

61. Which of the following are correct in the context of monopolistic competition?

- (A) Monopolistic competitive firms may earn economic profits or incur losses in the short-run.
- (B) The long-run equilibrium position of a monopolistically competitive producer is far more efficient than that of pure competition.
- (C) The firms may strive to increase the demand for its product through product development and advertising.
- (D) Consumers benefit from the wide variety of product choices that monopolistic competition provides.

Choose the correct answer from the options given below:

- A. (A), (C) and (D) only
- B. (A), (B) and (D) only
- C. (A), (B), (C) and (D)
- D. (A), (B) and (C) only

Correct Answer: A. (A), (C) and (D) only

Solution:

Step 1: Understand monopolistic competition.

Monopolistic competition refers to a market structure with many firms selling similar but differentiated products. In the short run, firms may earn profits or losses, but in the long run, they tend to break even due to the entry of new firms. Consumers enjoy product variety due to differentiation.

Step 2: Analysis of options.

- (A) Monopolistic competitive firms may earn profits or incur losses in the short run due to market dynamics and product differentiation. This is correct. - (B) In the long run, monopolistic competition is less efficient than pure competition due to excess capacity. This statement is incorrect. - (C) Firms engage in product development and advertising to differentiate their products and increase demand, which is correct. - (D) Monopolistic competition offers consumers a variety of products, which is beneficial. This is correct.

Step 3: Conclusion.

The correct answer is (A), (C), and (D) only, as they accurately describe the features of monopolistic competition.

 Quick Tip

Monopolistic competition provides variety to consumers but may not achieve long-run efficiency due to excess capacity.

62. Coefficient of determination measures

- (A) Correlation between the dependent and independent variables.
- (B) The residual sum of squares as a proportion of the total sum of squares.
- (C) The explained sum of squares as a proportion of the total sum of squares.
- (D) How well the sample regression fits the data.

Choose the correct answer from the options given below:

- A. (A), (B) and (D) only
- B. (A), (C) and (D) only
- C. (A), (B), (C) and (D)
- D. (C) and (D) only

Correct Answer: B. (A), (C) and (D) only

Solution:

Step 1: Understand the coefficient of determination.

The coefficient of determination, denoted by R^2 , indicates the proportion of the variance in the dependent variable that can be explained by the independent variables in a regression model. It provides insight into how well the model fits the data.

Step 2: Analysis of options.

- (A) Correlation between the dependent and independent variables: This is partially correct. The coefficient of determination is related to the square of the correlation coefficient, but it is more than just the correlation itself. - (B) The residual sum of squares as a proportion of the total sum of squares: This is incorrect. The coefficient of determination is related to the explained sum of squares, not the residual sum of squares. - (C) The explained sum of squares as a proportion of the total sum of squares: This is correct. The coefficient of

determination is defined as the ratio of the explained variation to the total variation in the dependent variable. - (D) How well the sample regression fits the data: This is correct. R^2 measures the goodness of fit of the regression model to the data.

Step 3: Conclusion.

Thus, the correct answer is (A), (C), and (D) only.

💡 Quick Tip

The coefficient of determination (R^2) quantifies how well the regression model explains the variance in the dependent variable. A higher R^2 indicates a better fit.

63. Which of the following statements are correct about the contrast between pure public and pure private goods?

- (A) The total provision of pure private goods is the sum of private consumption, whereas the total provision of pure public goods is equal between individuals.
- (B) The consumer in general pays the same prices and consumes different quantities of the good when there is efficient provision of pure private goods.
- (C) The consumer pays different prices and consumes the same quantity of the good when there is efficient provision of pure public goods.
- (D) Atomistic markets ensure efficient provisioning for both pure private as well as pure public goods.

Choose the correct answer from the options given below:

- A. (A), (B) and (D) only
- B. (A), (B) and (C) only
- C. (B), (C) and (D) only
- D. (A), (B), (C) and (D)

Correct Answer: B. (A), (B) and (C) only

Solution:

Step 1: Understand the characteristics of public and private goods.

Private goods are rivalrous and excludable, meaning that consumption by one person reduces availability for others. Public goods, however, are non-rivalrous and non-excludable, meaning consumption by one person does not affect others' ability to consume them.

Step 2: Analysis of options.

- (A) The total provision of pure private goods is the sum of private consumption, while the total provision of pure public goods is shared equally among individuals. This is correct, as private goods are individually consumed, whereas public goods are consumed collectively. - (B) In private goods markets, consumers pay the same price but may consume different quantities. This is true, as each individual has different income levels and preferences. - (C) Public goods are provided at the same level to all consumers, but the contribution to funding (e.g., taxes) can differ. This is correct. - (D) Atomistic markets are inefficient for public goods provision due to the free-rider problem, so this statement is incorrect.

Step 3: Conclusion.

The correct answer is (A), (B), and (C) only, as they accurately describe the distinctions between public and private goods.

💡 Quick Tip

Public goods require collective action for efficient provision, as atomistic markets cannot handle the free-rider problem that often arises.

64. According to the law of comparative advantage, trade will not be beneficial for both countries if

- (A) One nation is less efficient than the other nation in the production of both commodities.
- (B) One nation has an absolute advantage with respect to the other nation in the production of both commodities.
- (C) The opportunity cost of producing both the commodities is the same in both countries.
- (D) The absolute disadvantage that one nation has with respect to the other nation is the same in both commodities.

Choose the correct answer from the options given below:

- A. (A) only
- B. (A) and (B) only
- C. (C) and (D) only
- D. (B), (C) and (D) only

Correct Answer: B. (C) and (D) only

Solution:

Step 1: Understand the law of comparative advantage.

According to the law of comparative advantage, trade is beneficial when each country specializes in producing the good for which it has a lower opportunity cost compared to the other. Trade will not be beneficial if the opportunity costs of producing both goods are the same in both countries or if the absolute disadvantage in producing goods is the same for both countries.

Step 2: Analysis of options.

- (A) Even if one country is less efficient in producing both goods, trade can still be beneficial if each country has a comparative advantage in one good.
- (B) Absolute advantage does not matter in determining the benefits of trade; comparative advantage does.
- (C) If the opportunity costs are identical, neither country will have a comparative advantage, making trade unbeneficial. This is correct.
- (D) If the absolute disadvantage in both goods is the same for both countries, there is no basis for specialization, making trade unbeneficial. This is also correct.

Step 3: Conclusion.

The correct answer is (C) and (D) only, as these situations prevent beneficial trade according to the law of comparative advantage.

💡 Quick Tip

For trade to be mutually beneficial, countries must specialize in the goods they produce at a lower opportunity cost compared to others.

65. In the Keynesian framework, determination of an equilibrium interest rate also implies

- (A) The rate that equates the supply of and the demand for bonds.
- (B) The rate that equates the supply of money with the demand for money.
- (C) The rate that equates the supply of money and demand for investment.
- (D) The rate that equates supply of labour and demand for labour.

Choose the correct answer from the options given below:

- A. (C) only
- B. (C) and (D) only
- C. (A), (B) and (C) only
- D. (A), (B), (C) and (D)

Correct Answer: C. (A), (B) and (C) only

Solution:

Step 1: Understand the Keynesian framework.

In the Keynesian framework, the equilibrium interest rate is determined by the balance between the supply and demand for money. This interest rate is influenced by factors such as the demand for investment, money, and bonds.

Step 2: Analysis of options.

- (A) The rate that equates the supply of and the demand for bonds: This is not correct.

While interest rates and bond prices are related, the Keynesian equilibrium interest rate is determined by the money supply and demand, not bonds.

- (B) The rate that equates the supply of money with the demand for money: This is correct.

In the Keynesian model, the equilibrium interest rate balances the money supply and the demand for money.

- (C) The rate that equates the supply of money and demand for investment: This is also correct. The interest rate influences the level of investment, as it determines the cost of borrowing.

- (D) The rate that equates supply of labour and demand for labour: This is unrelated to the determination of the equilibrium interest rate, as it pertains to the labor market.

Step 3: Conclusion.

The correct answer is (A), (B) and (C) only.

💡 Quick Tip

In the Keynesian framework, the equilibrium interest rate is influenced by the balance of money supply and demand, which affects investment and economic activity.

66. Match List-I with List-II

List-I	List-II
(A) The Economics of Imperfect Competition	(I) F. H. Knight
(B) Theory of Monopolistic Competition	(II) H. von Stackelberg
(C) Risk, Uncertainty and Profit	(III) Edward H. Chamberlin
(D) The Theory of the Market Economy	(IV) Joan Robinson

Choose the correct answer from the options given below:

- A. (A) - (IV), (B) - (III), (C) - (II), (D) - (I)
- B. (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
- C. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
- D. (A) - (IV), (B) - (I), (C) - (III), (D) - (II)

Correct Answer: C. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)

Solution:

Step 1: Understanding the authors and their works.

- (A) "The Economics of Imperfect Competition" was written by F. H. Knight, focusing on imperfect competition.
- (B) "Theory of Monopolistic Competition" was written by Joan Robinson, contributing significantly to the concept of monopolistic competition.
- (C) "Risk, Uncertainty and Profit" was authored by Edward H. Chamberlin, who introduced concepts of risk and uncertainty.

- (D) "The Theory of the Market Economy" was written by H. von Stackelberg, focusing on oligopoly theory and the market economy.

Step 2: Conclusion.

The correct match is (A) - (I), (B) - (II), (C) - (III), (D) - (IV).

💡 Quick Tip

The theory of monopolistic competition was largely developed by Joan Robinson and Edward H. Chamberlin.

67. Match List-I with List-II

List-I	List-II
(A) Closed Interval	(I) $[a, b] = \{x \in \mathbb{R} : a \leq x \leq b\}$
(B) Open Interval	(II) $(a, b) = \{x \in \mathbb{R} : a < x < b\}$
(C) Unbounded Interval	(III) $[a, b) = \{x \in \mathbb{R} : a \leq x < b\}$
(D) Half Open Interval	(IV) $(a, \infty) = \{x \in \mathbb{R} : a < x\}$

Choose the correct answer from the options given below:

- A. (A) - (IV), (B) - (III), (C) - (II), (D) - (I)
B. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
C. (A) - (III), (B) - (I), (C) - (IV), (D) - (II)
D. (A) - (II), (B) - (IV), (C) - (I), (D) - (III)

Correct Answer: B. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)

Solution:

Step 1: Understanding the intervals.

- A **Closed Interval** includes both endpoints, so its representation is $[a, b] = \{x \in \mathbb{R} : a \leq x \leq b\}$. This corresponds to option (I). - An **Open Interval** excludes both endpoints, so its representation is $(a, b) = \{x \in \mathbb{R} : a < x < b\}$. This corresponds to option (II). - A **Unbounded Interval** is one where one endpoint is infinite, so its representation is $[a, \infty) = \{x \in \mathbb{R} : a \leq x < \infty\}$. This corresponds to option (III). - A **Half**

Open Interval** includes one endpoint and excludes the other, so its representation is $(a, \infty) = \{x \in \mathbb{R} : a < x\}$. This corresponds to option (IV).

Step 2: Conclusion.

The correct match is (A) - (I), (B) - (II), (C) - (III), (D) - (IV).

💡 Quick Tip

In interval notation, square brackets $[]$ indicate inclusion of endpoints, while parentheses $()$ mean exclusion.

68. Match List-I with List-II

Concepts	Formula
(A) Weighted Mean	(I) $\frac{\sum_{i=1}^n w_i x_i}{\sum_{i=1}^n w_i}$
(B) Grand Mean of Combined Data	(II) $\frac{\sum_{i=1}^n x_i}{n}$
(C) Harmonic Mean	(III) $\frac{n}{\sum_{i=1}^n \frac{1}{x_i}}$
(D) Geometric Mean	(IV) $(\prod_{i=1}^n x_i)^{1/n}$

Choose the correct answer from the options given below:

- A. (A) - (IV), (B) - (III), (C) - (II), (D) - (I)
- B. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
- C. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
- D. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)

Correct Answer: B. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)

Solution:

Step 1: Understanding the concepts and formulas.

1. **Weighted Mean (A):** The weighted mean is used when each value in a data set has different levels of importance (weights). The formula for the weighted mean is:

$$\text{Weighted Mean} = \frac{\sum_{i=1}^n w_i x_i}{\sum_{i=1}^n w_i}$$

where w_i are the weights and x_i are the values. This corresponds to **(I)** in List-II.

2. **Grand Mean of Combined Data (B):** The grand mean is the weighted average of the means from different groups. Its formula is:

$$\text{Grand Mean} = \frac{\sum_{i=1}^n x_i}{n}$$

where x_i are the values and n is the number of observations. This corresponds to **(II)** in List-II.

3. **Harmonic Mean (C):** The harmonic mean is calculated as the reciprocal of the arithmetic mean of the reciprocals of the data values. Its formula is:

$$\text{Harmonic Mean} = \frac{n}{\sum_{i=1}^n \frac{1}{x_i}}$$

where x_i are the values and n is the total number of observations. This corresponds to **(III)** in List-II.

4. **Geometric Mean (D):** The geometric mean is the n -th root of the product of all the data values. Its formula is:

$$\text{Geometric Mean} = \left(\prod_{i=1}^n x_i \right)^{1/n}$$

where x_i are the values and n is the number of observations. This corresponds to **(IV)** in List-II.

Step 2: Matching the concepts with formulas.

- (A) **Weighted Mean** corresponds to formula **(I)**. - (B) **Grand Mean of Combined Data** corresponds to formula **(II)**. - (C) **Harmonic Mean** corresponds to formula **(III)**. - (D) **Geometric Mean** corresponds to formula **(IV)**.

Step 3: Conclusion.

The correct answer is **2. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)**.

💡 Quick Tip

The weighted mean gives more importance to specific data points based on their weights, while the harmonic mean is used for rates and ratios like speed or density.

69. Match List-I with List-II

Nature of Skewness for a Distribution	Relationship between Arithmetic Mean (AM), Median and Mode
(A) Positively Skewed	(I) $AM = Median = Mode$
(B) Moderately Skewed	(II) $AM > Median > Mode$
(C) Negatively Skewed	(III) $AM - Mode = 3 (AM - Median)$
(D) Symmetric Distribution	(IV) $AM < Median < Mode$

Choose the correct answer from the options given below:

- A. (A) - (II), (B) - (I), (C) - (III), (D) - (I)
 B. (A) - (IV), (B) - (III), (C) - (II), (D) - (I)
 C. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
 D. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)

Correct Answer: D. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)

Solution:

Step 1: Understanding the relationship between AM, Median, and Mode.

- **Positively Skewed (A):** For a positively skewed distribution, the mean is greater than the median, which is greater than the mode. This corresponds to **(III)** in List-II.
- **Moderately Skewed (B):** In a moderately skewed distribution, the mean is less than the median, and the median is less than the mode. This corresponds to **(IV)** in List-II.
- **Negatively Skewed (C):** A negatively skewed distribution will have the mode greater than the median, which is greater than the mean. This relationship is given by **$AM - Mode = 3 (AM - Median)$** , corresponding to **(II)** in List-II.
- **Symmetric Distribution (D):** For symmetric distributions, the mean, median, and mode are all equal, corresponding to **(I)** in List-II.

Step 2: Conclusion.

The correct answer is **(A) - (III), (B) - (IV), (C) - (II), (D) - (I)**.

Quick Tip

In skewed distributions, the mean is always pulled in the direction of the skew, with the mean being the greatest in positive skew and the smallest in negative skew.

70. Match List-I with List-II

Types of Production Functions	Their Functional Forms
(A) Translog Production Function	(I) $q = \prod_{i=1}^n x_i^{a_i}$
(B) Generalised Leontief Production Function	(II) $q = \sum_{i=1}^n a_i x_i^\rho, \rho \leq 1$
(C) Cobb Douglas Production Function	(III) $q = \sum_{i=1}^n a_{ij} x_i x_j$, where $a_{ij} = a_{ji}$
(D) Constant Elasticity of Substitution Production Function	(IV) $q = a_0 + \sum_{i=1}^n a_i \ln x_i + 0.5 \sum_{i=1}^n \ln x_i$

Choose the correct answer from the options given below:

- A. (A) - (IV), (B) - (III), (C) - (II), (D) - (I)
- B. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
- C. (A) - (III), (B) - (II), (C) - (I), (D) - (IV)
- D. (A) - (II), (B) - (IV), (C) - (I), (D) - (III)

Correct Answer: B. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)

Solution:

Step 1: Understanding the production functions and their forms.

- **Translog Production Function (A):** This is a flexible functional form. The functional form is $q = \prod_{i=1}^n x_i^{a_i}$. This corresponds to (I) in List-II.

- **Generalised Leontief Production Function (B):** This function is based on a linear combination of inputs raised to a power. Its functional form is $q = \sum_{i=1}^n a_i x_i^\rho, \rho \leq 1$. This corresponds to (II) in List-II.

- **Cobb Douglas Production Function (C):** A widely-used production function in economics, expressed as $q = \sum_{i=1}^n a_{ij} x_i x_j$, where $a_{ij} = a_{ji}$. This corresponds to (III) in List-II.

- **Constant Elasticity of Substitution Production Function (D):** This function defines the relationship between inputs with constant elasticity. Its functional form is

$q = a_0 + \sum_{i=1}^n a_i \ln x_i + 0.5 \sum_{i=1}^n \ln x_i$. This corresponds to (IV) in List-II.

Step 2: Conclusion.

The correct answer is (A) - (I), (B) - (II), (C) - (III), (D) - (IV).

 Quick Tip

The Cobb-Douglas production function is popular for its simplicity, while the CES function allows for varying degrees of input substitution.

71. Match List-I with List-II

Concepts	Their meaning
(A) Foreign Exchange Swaps	(I) is a forward contract for standardized currency amounts
(B) Forward Transaction	(II) refers to the avoidance of a foreign exchange risk
(C) Foreign Exchange Futures	(III) refers to a spot sale of a currency combined with a forward purchase of the same currency
(D) Hedging	(IV) refers to an agreement today to buy or sell a specified amount of a currency at a future date

Choose the correct answer from the options given below:

- A. (A) - (II), (B) - (I), (C) - (III), (D) - (IV)
- B. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
- C. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)
- D. (A) - (IV), (B) - (III), (C) - (II), (D) - (I)

Correct Answer: B. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)

Solution:

Step 1: Understanding the terms.

- **Foreign Exchange Swaps (A):** These contracts involve exchanging currencies at two different times in the future. These contracts are standardized and traded on organized markets. Thus, this matches with **(I)**.
- **Forward Transaction (B):** A forward transaction refers to an agreement to buy or sell a currency at a specific future date, at a rate agreed upon today. This is linked to **(II)**.
- **Foreign Exchange Futures (C):** Futures contracts are similar to forwards but are standardized, traded on exchanges, and often involve a spot sale and forward repurchase of the same currency. This corresponds to **(III)**.
- **Hedging (D):** Hedging involves managing foreign exchange risk, typically by entering into forward transactions to offset potential future currency losses. This matches with **(IV)**.

**** (IV) ****.

Step 2: Conclusion.

The correct match is **** (A) - (I), (B) - (II), (C) - (III), (D) - (IV) ****.

Quick Tip

Foreign exchange swaps and futures are vital tools in managing currency risks, while forward transactions and hedging help protect against adverse market fluctuations.

72. Match List-I with List-II

Categories of Time Series Patterns	Their meaning
(A) Seasonal Variation	(I) movement in an economic variable that is periodic
(B) Random Fluctuation	(II) steady movement in an economic variable over time
(C) Business Cycles	(III) movement in an economic variable that depends on the time
(D) Trends	(IV) movement in an economic variable that are due to unpredictable

Choose the correct answer from the options given below:

- A. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)
- B. (A) - (I), (B) - (IV), (C) - (II), (D) - (III)
- C. (A) - (III), (B) - (II), (C) - (IV), (D) - (I)
- D. (A) - (II), (B) - (III), (C) - (I), (D) - (IV)

Correct Answer: B. (A) - (I), (B) - (IV), (C) - (II), (D) - (III)

Solution:

Step 1: Understanding time series patterns.

- ****Seasonal Variation (A):**** This refers to periodic fluctuations that occur at regular intervals, usually influenced by factors like the time of the year. It corresponds to **** (I) ****.
- ****Random Fluctuation (B):**** These are unpredictable variations in a time series due to various unforeseen factors. This corresponds to **** (IV) ****.
- ****Business Cycles (C):**** These are cycles of economic expansion and contraction that are observed over time, and they correspond to **** (II) ****.

- **Trends (D):** Trends refer to the long-term movement in a time series, usually upward or downward, and correspond to **(III)**.

Step 2: Conclusion.

The correct match is **(A) - (I), (B) - (IV), (C) - (II), (D) - (III)**.

💡 Quick Tip

Time series analysis helps in forecasting economic behavior, understanding cycles, and detecting seasonality in data.

73. Match List-I with List-II

Measures of Money Supply	Components
(A) M3	(I) Currency held by the public (C) + net demand deposits (DD) + net time deposits of banks (TD) + other deposits with post office savings banks (ODS) + deposits with mutual funds (MF) + deposits with non-banking financial companies (NBFC) + deposits with finance companies (FC) + deposits with credit co-ops (CCO) + deposits with small finance banks (SFB) + deposits with payment banks (PB) + deposits with micro finance institutions (MFI) + deposits with other financial institutions (OFI)
(B) M2	(II) C + DD + OD + net time deposits of banks
(C) M1	(III) C + DD + OD + saving deposits of banks
(D) M4	(IV) C + DD + OD + net time deposits of banks + total deposits with post office savings banks (TDS) + deposits with mutual funds (MF) + deposits with non-banking financial companies (NBFC) + deposits with finance companies (FC) + deposits with credit co-ops (CCO) + deposits with small finance banks (SFB) + deposits with payment banks (PB) + deposits with micro finance institutions (MFI) + deposits with other financial institutions (OFI)

Choose the correct answer from the options given below:

- A. (A) - (II), (B) - (I), (C) - (III), (D) - (IV)
- B. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
- C. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)
- D. (A) - (IV), (B) - (III), (C) - (II), (D) - (I)

Correct Answer: B. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)

Solution:

Step 1: Understanding the components of money supply.

The money supply is measured in different ways, with each measure encompassing a different combination of components that reflect the liquidity of money in an economy. Let's break down each component:

- **M3 (A):** M3 is the broadest measure of money supply in the economy. It includes all the components of M1 (currency held by the public, demand deposits of banks, and other

deposits of the RBI) but also includes other less liquid forms of money, such as net time deposits of banks. The formula for M3 is:

$$M3 = \text{Currency held by the public (C)} + \text{Net demand deposits of banks (DD)} + \text{Other deposits of the RBI (OD)}$$

Hence, this corresponds to **(I)** in List-II. **Conclusion: (A) - (I)**

- **M2 (B):** M2 is a narrower measure than M3, including currency held by the public, demand deposits in banks, and other deposits in the RBI. However, it also includes net time deposits of banks, which makes it more liquid than M3 but broader than M1. The formula for M2 is:

$$M2 = \text{Currency held by the public (C)} + \text{Demand deposits of banks (DD)} + \text{Other deposits of the RBI (OD)}$$

Hence, this corresponds to **(II)** in List-II. **Conclusion: (B) - (II)**

- **M1 (C):** M1 represents the most liquid forms of money in the economy. It includes currency held by the public, demand deposits with banks, and other deposits with the RBI. It also includes savings deposits with post office savings banks, which adds another layer of liquidity. The formula for M1 is:

$$M1 = \text{Currency held by the public (C)} + \text{Demand deposits (DD)} + \text{Other deposits of the RBI (OD)} + \text{Savings deposits (S)}$$

Hence, this corresponds to **(III)** in List-II. **Conclusion: (C) - (III)**

- **M4 (D):** M4 includes all components of M3 and M1, as well as total deposits with post office savings organizations, excluding National Savings Certificates. M4 is the broadest measure of the money supply, capturing nearly all deposits in the economy. The formula for M4 is:

$$M4 = \text{Currency held by the public (C)} + \text{Demand deposits (DD)} + \text{Other deposits of the RBI (OD)} + \text{Net time deposits (NTD)}$$

Hence, this corresponds to **(IV)** in List-II. **Conclusion: (D) - (IV)**

Step 2: Conclusion.

The correct answer is **(A) - (I), (B) - (II), (C) - (III), (D) - (IV)**. This matches each measure of money supply with its correct components.

 Quick Tip

M3 is the broadest measure of money supply, while M1 includes the most liquid forms of money such as currency and demand deposits.

74. Match List-I with List-II

Types of Deficit	Level as % of GDP for FY2021
(A) Revenue Deficit	(I) 1.2
(B) Fiscal Deficit	(II) 5.7
(C) Primary Deficit	(III) 9.2
(D) Current Account Deficit	(IV) 7.3

Choose the correct answer from the options given below:

- A. (A) - (II), (B) - (I), (C) - (III), (D) - (IV)
- B. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
- C. (A) - (III), (B) - (II), (C) - (IV), (D) - (I)
- D. (A) - (II), (B) - (III), (C) - (I), (D) - (IV)

Correct Answer: B. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)

Solution:

Step 1: Understanding the types of deficit.

- **Revenue Deficit (A):** This is the shortfall between the government's revenue and its expenditure on current goods and services. The **revenue deficit** for FY2021 was **1.2%** of GDP, corresponding to **(I)**.
- **Fiscal Deficit (B):** This is the total borrowing requirement of the government, calculated as the difference between total expenditure and total revenue. For FY2021, this was **5.7%** of GDP, corresponding to **(II)**.
- **Primary Deficit (C):** This is the fiscal deficit minus the interest payments on past borrowings. It was **9.2%** of GDP for FY2021, corresponding to **(III)**.
- **Current Account Deficit (D):** This measures the difference between a country's savings and its investments. For FY2021, it was **7.3%** of GDP, corresponding to **(IV)**.

Step 2: Conclusion.

The correct answer is ***(A) - (I), (B) - (II), (C) - (III), (D) - (IV)****. This matches each type of deficit with the appropriate level as a percentage of GDP for FY2021.

Quick Tip

The fiscal deficit represents total borrowings, while the primary deficit excludes interest payments on past borrowings.

75. Match List-I with List-II

Name of State	Dependency Ratio for 2023-24
(A) Andhra Pradesh	(I) 66.3
(B) Bihar	(II) 52.2
(C) Kerala	(III) 41.4
(D) Uttar Pradesh	(IV) 50.6

Choose the correct answer from the options given below:

- A. (A) - (II), (B) - (I), (C) - (III), (D) - (IV)
- B. (A) - (IV), (B) - (III), (C) - (I), (D) - (II)
- C. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
- D. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)

Correct Answer: C. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)

Solution:

Step 1: Understanding the dependency ratio.

- ****Andhra Pradesh (A):**** The dependency ratio for Andhra Pradesh in 2023-24 is ****66.3****, corresponding to ***(I)****.

- ****Bihar (B):**** The dependency ratio for Bihar is ****52.2****, corresponding to ***(II)****.

- ****Kerala (C):**** Kerala has the lowest dependency ratio at ****41.4****, corresponding to ***(IV)****.

- **Uttar Pradesh (D):** The dependency ratio for Uttar Pradesh is **50.6**, corresponding to **(III)**.

Step 2: Conclusion.

The correct match is **(A) - (I), (B) - (II), (C) - (IV), (D) - (III)**. This matches each state with its respective dependency ratio for 2023-24.

 Quick Tip

A high dependency ratio indicates a larger proportion of the population that depends on the working-age population.