

UP Board Class 12 Economics - 329(JH) - 2025 Question Paper with Solutions

Time Allowed :3 Hours	Maximum Marks :100	Total Questions :27
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General Instructions

Read the following instructions very carefully and strictly follow them:

1. First 15 minutes are allotted for the candidates to read the question paper.
2. All questions are compulsory.
3. Question Numbers 1 to 10 are Multiple Choice Type for which only correct answer should be written in the answer-book.
4. Question Numbers 11 to 18 are Very Short Answer Type, which are to be answered in about 50 words each.
5. Question Numbers 19 to 24 are Short Answer Type, which are to be answered in about 150 words each and Question Numbers 25 to 27 are Long Answer Type, which are to be answered in about 300 words each.
6. The symbols used in question paper have usual meanings.

Multiple Choice Type Questions

1. “Supply creates its own demand.” This statement is given by

- (A) Ricardo
- (B) J.S. Mill
- (C) J.B. Say
- (D) A.C. Pigou

Correct Answer: (C) J.B. Say

Solution:

Step 1: Understanding the Concept:

This question asks to identify the economist associated with the famous classical economic proposition that “supply creates its own demand.” This principle is a cornerstone of classical economics.

Step 2: Detailed Explanation:

The statement “supply creates its own demand” is the essence of **Say’s Law of Markets**.

- **Jean-Baptiste Say (J.B. Say)** was a French classical economist who argued that the production of goods (supply) generates an equivalent amount of income (wages, profits, rent) for the producers. This income is then used to purchase other goods (demand).
- In his view, a general glut or overproduction across the entire economy was impossible because the act of producing goods itself creates the purchasing power needed to buy those goods.
- The other economists listed are also prominent figures, but are known for different contributions:
 - **David Ricardo**: Known for the theory of comparative advantage and the labor theory of value.
 - **John Stuart Mill (J.S. Mill)**: A key classical liberal thinker who expanded on the ideas of Ricardo and Adam Smith.
 - **Arthur Cecil Pigou (A.C. Pigou)**: Known for his work in welfare economics, particularly the concept of externalities and Pigouvian taxes.

Step 3: Final Answer:

The statement is given by J.B. Say.

Quick Tip

Say's Law is a fundamental concept in classical economics, which assumes that markets will naturally self-regulate and tend towards full employment. It was famously challenged by John Maynard Keynes during the Great Depression.

2. "Money is the pivot around which economic science revolves." It is a statement of

- (A) Adam Smith
- (B) A.C. Pigou
- (C) Marshall
- (D) Crowther

Correct Answer: (C) Marshall

Solution:

Step 1: Understanding the Concept:

This question requires identifying the author of a specific quote that describes the central role of money in the study of economics.

Step 2: Detailed Explanation:

- The statement was made by **Alfred Marshall**, a highly influential neoclassical economist.
- In his seminal work, "Principles of Economics" (1890), Marshall defined economics as "a study of mankind in the ordinary business of life." He further explained that while economics examines welfare, it is primarily concerned with those aspects of welfare that can be brought "directly or indirectly into relation with the measuring-rod of money."
- For Marshall, money was not the end goal of economic activity, but it was the essential tool—the "pivot"—that allowed economists to measure and compare the strengths of human desires, motives, and satisfactions in a practical and quantitative way.

Step 3: Final Answer:

The statement is attributed to Alfred Marshall.

Quick Tip

Remember this quote by associating Marshall with the idea of money as a "measuring rod." While Adam Smith is the "father of economics," Marshall is credited with systematizing economic thought and providing many of the foundational tools of microeconomics.

3. The law of Equi-Marginal Utility was propounded by

- (A) Marshall
- (B) Jevons
- (C) Pigou
- (D) Menger

Correct Answer: (B) Jevons

Solution:

Step 1: Understanding the Concept:

The Law of Equi-Marginal Utility describes how a consumer achieves maximum satisfaction by allocating their limited income among different goods. It states that a consumer will distribute their expenditure so that the marginal utility derived from the last unit of money spent on each good is equal.

Step 2: Detailed Explanation:

The development of marginal utility theory was a key event in the history of economic thought known as the "Marginal Revolution."

- **William Stanley Jevons** was one of the three main economists, along with Carl Menger and Léon Walras, who independently and almost simultaneously developed the theory of marginal utility in the 1870s. He was a foundational proponent (propounder) of using the marginal utility concept to explain consumer behavior.
- While the idea was first articulated by H.H. Gossen (as Gossen's Second Law), it was Jevons who brought it to the forefront of economic debate in the English-speaking world.
- **Alfred Marshall** later synthesized, refined, and popularized this law in his "Principles of Economics," giving it its modern name and formulation ($\frac{MU_x}{P_x} = \frac{MU_y}{P_y} = \dots$).

Given the options, Jevons is the most appropriate choice as a primary originator and proponent of the underlying theory.

Step 3: Final Answer:

The law of Equi-Marginal Utility was propounded by Jevons.

Quick Tip

Associate Jevons, Menger, and Walras with the "Marginal Revolution" that shifted economics from a classical focus on supply and cost to a neoclassical focus on individual utility and demand. Marshall is best known for integrating these new ideas into a comprehensive framework.

4. Under perfect competition, the demand curve of a firm is

- (A) Elastic
- (B) Inelastic
- (C) Perfectly elastic
- (D) Perfectly inelastic

Correct Answer: (C) Perfectly elastic

Solution:

Step 1: Understanding the Concept:

Perfect competition is a market structure with a large number of firms, homogenous products, and free entry and exit. A key characteristic is that each individual firm is a "price taker," meaning it has no power to influence the market price.

Step 2: Detailed Explanation:

- Since a single firm in a perfectly competitive market is a price taker, it must accept the market-determined price.
- At this given market price, the firm can sell as much output as it wants. If it tries to charge even a marginally higher price, its sales will drop to zero because consumers can buy the identical product from numerous other sellers at the market price.
- This situation is represented graphically by a horizontal demand curve at the level of the market price. A horizontal demand curve indicates that the price elasticity of demand is infinite.
- Therefore, the demand curve for an individual firm is **perfectly elastic**.

This horizontal demand curve is also the firm's Average Revenue (AR) and Marginal Revenue (MR) curve, so $P = AR = MR$.

Step 3: Final Answer:

Under perfect competition, the demand curve of a firm is perfectly elastic.

Quick Tip

Remember the key distinction: the **market** demand curve in perfect competition is downward sloping, but the demand curve facing an **individual firm** is horizontal (perfectly elastic).

5. If elasticity is equal to 3 and Average Revenue is Rs. 30, then Marginal Revenue will be

- (A) Rs. 20
- (B) Rs. 30
- (C) Rs. 10
- (D) Rs. 90

Correct Answer: (A) Rs. 20

Solution:

Step 1: Understanding the Concept:

This question requires the application of the relationship between Average Revenue (AR), Marginal Revenue (MR), and the price elasticity of demand (e). Average Revenue is the same as the price of the good ($AR = P$).

Step 2: Key Formula or Approach:

The relationship between MR, AR, and elasticity of demand is given by the formula:

$$MR = AR \left(1 - \frac{1}{e} \right)$$

where e is the price elasticity of demand.

Step 3: Detailed Explanation:

We are given the following values:

- Price elasticity of demand, $e = 3$.
- Average Revenue, $AR = \text{Rs. } 30$.

Substitute these values into the formula:

$$MR = 30 \left(1 - \frac{1}{3} \right)$$

First, solve the expression inside the parenthesis:

$$1 - \frac{1}{3} = \frac{3}{3} - \frac{1}{3} = \frac{2}{3}$$

Now, multiply this by the Average Revenue:

$$MR = 30 \times \frac{2}{3}$$

$$MR = \frac{60}{3} = 20$$

Thus, the Marginal Revenue will be Rs. 20.

Step 4: Final Answer:

The Marginal Revenue will be Rs. 20.

Quick Tip

This formula is essential for microeconomics, especially in market structure analysis. Remember that when demand is elastic ($e > 1$), MR is positive. When demand is unit elastic ($e = 1$), MR is zero. And when demand is inelastic ($e < 1$), MR is negative.

7. Who is known as the father of Macroeconomics ?

- (A) Adam Smith
- (B) Keynes
- (C) Robertson
- (D) Friedman

Correct Answer: (B) Keynes

Solution:

Step 1: Understanding the Concept:

This question asks to identify the economist who is considered the founder of modern macroeconomics as a distinct field of study.

Step 2: Detailed Explanation:

- **John Maynard Keynes** is widely regarded as the father of modern macroeconomics. Before Keynes, classical economics (led by figures like Adam Smith) focused primarily on microeconomic issues and assumed that economies would self-regulate to achieve full employment.
- The Great Depression of the 1930s challenged these classical views. In response, Keynes published his seminal work, "The General Theory of Employment, Interest and Money" in 1936.
- This book introduced revolutionary concepts such as aggregate demand, the consumption function, the multiplier effect, and the role of government intervention (through fiscal policy) to manage economic downturns and unemployment. This laid the foundation for the study of the economy as a whole, i.e., macroeconomics.
- **Adam Smith** is considered the father of modern economics in general, not specifically macroeconomics.
- **Milton Friedman** was a later economist who led the monetarist school of thought, which was a major counter-argument to Keynesian economics.

Step 3: Final Answer:

John Maynard Keynes is known as the father of Macroeconomics.

Quick Tip

Remember the key distinction: Adam Smith = Father of Economics (Classical, Micro-focused). John Maynard Keynes = Father of Macroeconomics (Aggregate Demand, Government Intervention).

8. Which of the following methods is used to estimate National Income in India ?

- (A) Production method
- (B) Expenditure method
- (C) Income method
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

National Income can be measured in three ways: by measuring the total value of goods and services produced (Production Method), by measuring the total income earned by factors of production (Income Method), or by measuring the total spending on final goods and services (Expenditure Method). Theoretically, all three methods should yield the same result.

Step 2: Detailed Explanation:

In practice, collecting accurate data for the entire economy using just one method is very difficult. Different methods are more reliable for different sectors of the economy. Therefore, the National Statistical Office (NSO) of India uses a combination of these methods:

- **Production Method (or Value Added Method):** This is used for the primary sectors (like agriculture, mining) and secondary sectors (like manufacturing). It measures the value added at each stage of production.
- **Income Method:** This is used for the tertiary or service sector, where it is easier to collect data on incomes (wages, rent, interest, profit) of the factors of production.
- **Expenditure Method:** This is used to estimate components like private final consumption expenditure and gross capital formation, and also serves as a cross-check on the estimates from the other methods.

Since India's statistical agencies employ a mix of all three methods to arrive at the most accurate and comprehensive estimate of National Income, the correct answer is "All of these".

Step 3: Final Answer:

All of the methods—Production, Income, and Expenditure—are used to estimate National Income in India.

Quick Tip

For most large, complex economies like India, statistical agencies will never rely on a single method to calculate national income. They always use a pragmatic mix of methods best suited to different economic sectors.

9. Which of the following has the monopoly of note issue in India ?

- (A) World Bank
- (B) Reserve Bank of India
- (C) Commercial Bank
- (D) Exim Bank

Correct Answer: (B) Reserve Bank of India

Solution:

Step 1: Understanding the Concept:

This question asks to identify the institution that has the sole legal authority to issue currency notes in India. This is a primary function of a country's central bank.

Step 2: Detailed Explanation:

- The **Reserve Bank of India (RBI)** is India's central bank. As per Section 22 of the Reserve Bank of India Act, 1934, the RBI has the sole right (monopoly) to issue banknotes in India.
- The only exception is the one-rupee note, which is issued by the Ministry of Finance, Government of India. However, even these notes are put into circulation by the RBI. All other denominations of banknotes (Rs. 2, 5, 10, 20, 50, 100, 200, 500, 2000) are issued exclusively by the RBI.
- The other institutions listed do not have this function:
 - **World Bank:** An international financial institution that provides loans and grants to governments of low- and middle-income countries.
 - **Commercial Bank:** Financial institutions like SBI, HDFC, etc., that accept deposits and provide lending services to the public. They do not issue currency.
 - **Exim Bank (Export-Import Bank of India):** A specialized financial institution that finances and promotes India's international trade.

Step 3: Final Answer:

The Reserve Bank of India has the monopoly of note issue in India.

Quick Tip

The issuance of currency is a core function of a country's central bank. For India, the central bank is the RBI. This monopoly helps the central bank to control the money supply in the economy.

10. Balance of trade is related to

- (A) Import of Goods
- (B) Export of Goods
- (C) Import and Export of Goods
- (D) None of these

Correct Answer: (C) Import and Export of Goods

Solution:

Step 1: Understanding the Concept:

The Balance of Trade (BoT) is an economic measure that records the difference between the value of a country's exports and the value of its imports for a given period. It is a key component of a country's Balance of Payments (BoP).

Step 2: Detailed Explanation:

- The Balance of Trade specifically deals with the trade in **goods**, which are tangible and visible items. It does not include trade in services (like tourism or software services) or capital flows.
- The formula is:

$$\text{Balance of Trade} = (\text{Value of Export of Goods}) - (\text{Value of Import of Goods})$$

- Since the calculation involves both the value of imports and the value of exports, the Balance of Trade is related to both the **Import and Export of Goods**.
- A positive balance (exports > imports) is called a trade surplus.
- A negative balance (imports > exports) is called a trade deficit.

Step 3: Final Answer:

The Balance of trade is related to the Import and Export of Goods.

Quick Tip

Remember the key distinction: Balance of Trade = Visible items only (Goods). Balance of Payments on Current Account = Visible items (Goods) + Invisible items (Services, Transfers). Balance of Payments = Current Account + Capital Account.

Very Short Answer Type Questions

11. What is Positive Economics ?

Correct Answer: Positive economics is the branch of economics that deals with objective, factual, and cause-and-effect statements about the economy. It describes "what is," "what was," or "what will be," and its statements can be tested against data.

Solution:

Step 1: Understanding the Concept:

Positive economics is a stream of economic analysis that focuses on objective descriptions and predictions. It avoids value judgments or opinions about what should be done.

Step 2: Detailed Explanation:

- **Objective and Fact-Based:** Positive economics deals with statements that are verifiable. For example, the statement "An increase in the price of petrol leads to a decrease in its quantity demanded" is a positive statement because it can be tested with real-world data.
- **Cause-and-Effect Relationship:** It seeks to explain how the economy works by establishing relationships between economic variables.
- **Contrast with Normative Economics:** It is distinct from normative economics, which deals with subjective opinions and value judgments about how the economy *should* be. Normative statements often include words like "ought," "should," or "fair." For instance, "The government should provide free healthcare to all citizens" is a normative statement.

Quick Tip

To remember the difference, think: **P**ositive economics is about what is **P**rovably true (or false). **N**ormative economics is about personal **N**otions or opinions.

12. What do you understand by Average Utility ?

Correct Answer: Average utility is the total utility derived from consuming a certain number of units of a commodity divided by the number of units consumed. It represents the utility obtained per unit of the commodity.

Solution:

Step 1: Understanding the Concept:

Average Utility (AU) is a measure of the per-unit satisfaction a consumer gets from a good. It is derived from the concept of Total Utility (TU), which is the total satisfaction obtained from

consuming all units of a good.

Step 2: Detailed Explanation:

The formula for Average Utility is:

$$AU = \frac{TU}{Q}$$

where:

- AU = Average Utility
- TU = Total Utility
- Q = Quantity of the commodity consumed

For example, if consuming 4 apples gives a total utility of 40 utils, the average utility is:

$$AU = \frac{40 \text{ utils}}{4 \text{ apples}} = 10 \text{ utils per apple}$$

Average utility is different from marginal utility, which is the additional utility gained from consuming one more unit of the good. Generally, as consumption increases, both average and marginal utility tend to decrease.

Quick Tip

The word "average" in economics almost always means "total divided by quantity." This applies to Average Cost (TC/Q), Average Revenue (TR/Q), and Average Utility (TU/Q).

13. What is Opportunity Cost ?

Correct Answer: Opportunity cost is the value or benefit of the next-best alternative that must be forgone in order to pursue a certain action. It represents the cost of the missed opportunity.

Solution:

Step 1: Understanding the Concept:

The concept of opportunity cost is fundamental to economics and is based on the principles of scarcity and choice. Since resources (like time, money, and materials) are limited, every choice to use a resource for one purpose means giving up the chance to use it for another.

Step 2: Detailed Explanation:

- **Definition:** Opportunity cost is the value of the foregone alternative. It is not just the monetary price paid for a choice but also includes the value of what is given up.
- **Example:** Suppose a farmer can use his land to grow either wheat or corn. If he chooses to grow wheat, the opportunity cost of growing wheat is the net benefit he would have received from growing corn, which is his next-best alternative.

- **Application:** It applies to all decisions, from individual choices (e.g., the opportunity cost of attending college includes the wages you could have earned by working instead) to government policies (e.g., the opportunity cost of building a new highway might be a new hospital that could have been built with the same funds).

Quick Tip

When you see "opportunity cost," think "what is the next best thing I am giving up?" It's the true cost of any decision.

14. What is Indifference Curve ?

Correct Answer: An indifference curve is a graph that shows various combinations of two goods that provide the consumer with the same level of satisfaction or utility. The consumer is therefore "indifferent" to any combination of goods on the same curve.

Solution:

Step 1: Understanding the Concept:

Indifference curves are a tool used in microeconomics to represent consumer preferences. They are the foundation of ordinal utility analysis.

Step 2: Detailed Explanation and Properties:

- **Graphical Representation:** It is a curve where each point represents a "bundle" of two goods.
- **Equal Satisfaction:** Every point on a single indifference curve yields the same level of total utility. A consumer would be equally happy with any combination on that curve.
- **Key Properties:**
 1. **Downward Sloping:** To get more of one good, the consumer must give up some of the other good to maintain the same level of satisfaction.
 2. **Convex to the Origin:** This reflects the principle of diminishing marginal rate of substitution (MRS). As a consumer has more of Good X, they are willing to give up less of Good Y to get an additional unit of X.
 3. **Higher Curves Represent Higher Utility:** An indifference curve that is further to the right and above another represents a higher level of satisfaction.
 4. **They Never Intersect:** Intersection would violate the assumption of transitivity and consistency in consumer preferences.

Quick Tip

The shape and position of indifference curves reveal a consumer's preferences. Their slope at any point is the Marginal Rate of Substitution (MRS).

15. Define National Income.

Correct Answer: National income is the total monetary value of all final goods and services produced by the normal residents of a country during a financial year. It is the sum of all factor incomes (wages, rent, interest, and profit) earned in an economy.

Solution:

Step 1: Understanding the Concept:

National Income is a key macroeconomic indicator that measures the economic performance and overall health of a country's economy.

Step 2: Detailed Explanation of Key Terms:

- **Monetary Value:** National income is measured in terms of money, which serves as a common denominator for the vast variety of goods and services produced.
- **Final Goods and Services:** It includes only the value of final products and not intermediate goods. This is done to avoid the problem of double counting. For example, the value of bread is included, but not the value of the wheat used to make the flour for the bread.
- **Normal Residents:** It refers to the income earned by the citizens and institutions of a country, regardless of whether they are operating within the domestic territory or abroad. This is the basis for Gross National Product (GNP).
- **Financial Year:** It is measured over a specific period, typically one year.
- **Factor Incomes:** It represents the total income earned by the factors of production—land, labor, capital, and entrepreneurship—in the form of rent, wages, interest, and profit.

The most common measure is Net National Product at Factor Cost (NNP_{FC}).

Quick Tip

When defining national income, always include the key phrases: "monetary value," "final goods and services," and "during a financial year" to ensure a complete and accurate definition.

16. What are Intermediate Goods ?

Correct Answer: Intermediate goods are goods that are used as inputs or raw materials in the production of other goods. They are either resold by firms or are transformed into other goods during the production process within the same year.

Solution:

Step 1: Understanding the Concept:

In national income accounting, goods are classified based on their end use. Intermediate goods are distinct from final goods, which are meant for final consumption or investment.

Step 2: Detailed Explanation:

- **Purpose:** Their primary purpose is to be used up in the production of something else. They have not yet reached their final user.
- **Exclusion from National Income:** The value of intermediate goods is not included in the calculation of national income (like GDP) because their value is already incorporated into the market price of the final goods they are used to produce. Including them would lead to double counting.
- **Examples:**
 - Flour used by a bakery to produce bread.
 - Steel used by a car manufacturer to build a car.
 - Wood purchased by a furniture maker.
- **Context Matters:** A good can be both intermediate and final depending on its use. For example, sugar bought by a sweet shop is an intermediate good, but sugar bought by a household for direct consumption is a final good.

Quick Tip

The easiest way to identify an intermediate good is to ask: "Is this good going to be resold or used to make another product for sale within this year?" If yes, it's an intermediate good.

17. State three functions of central bank.

Correct Answer: Three key functions of a central bank are: (1) Monopoly of Note Issue, (2) Banker to the Government, and (3) Controller of Credit.

Solution:

Step 1: Understanding the Concept:

A central bank is the apex financial institution responsible for overseeing and managing a country's monetary system and banking structure.

Step 2: Detailed Explanation of Three Functions:

1. **Monopoly of Note Issue (Currency Authority):** The central bank has the sole legal authority to issue currency notes in a country. This function ensures uniformity in the currency, helps the bank control the money supply, and builds public faith in the monetary system. In India, the Reserve Bank of India (RBI) performs this function.
2. **Banker, Agent, and Advisor to the Government:** The central bank acts as the government's banker by maintaining its accounts, receiving payments, and making payments on its behalf. It also manages public debt and provides short-term loans (ways and means advances) to the government. As an agent and advisor, it advises the government on monetary and financial policies.
3. **Controller of Credit and Money Supply:** This is one of the most important functions. The central bank uses various monetary policy tools to regulate the amount of credit created by commercial banks and the overall money supply in the economy. The main objectives are to maintain price stability (control inflation) and promote economic growth. Tools include the repo rate, reverse repo rate, Cash Reserve Ratio (CRR), and open market operations (OMO).

Quick Tip

Other important functions include being the "Banker's Bank and Supervisor," "Lender of Last Resort," and "Custodian of Foreign Exchange Reserves." Any three of these would be a correct answer.

18. Define Involuntary unemployment.

Correct Answer: Involuntary unemployment refers to a situation in which individuals who are willing and able to work at the current prevailing wage rate are unable to find employment.

Solution:**Step 1: Understanding the Concept:**

The term was popularized by John Maynard Keynes to describe the type of unemployment that exists due to a deficiency in aggregate demand in the economy. It is a key focus of macroeconomic policy.

Step 2: Detailed Explanation:

- **Key Conditions:** For a person to be considered involuntarily unemployed, they must meet two conditions:
 1. **Willingness to Work:** They are actively seeking a job.
 2. **Ability to Work at Prevailing Wage:** They are not demanding a wage higher than what is currently offered for their skill set in the market.
- **Cause:** According to Keynesian economics, involuntary unemployment arises when the total demand for goods and services in an economy is insufficient to generate enough jobs for everyone who wants one. It is a sign that the economy is operating below its full potential.
- **Contrast with Other Types:** It is distinct from:
 - **Voluntary Unemployment:** People who are unemployed by choice (e.g., waiting for a better job offer, not wanting to work at the current wage).
 - **Frictional Unemployment:** Temporary unemployment as people move between jobs.
 - **Structural Unemployment:** Unemployment due to a mismatch between the skills of workers and the skills demanded by employers.

Quick Tip

The crucial part of the definition is "at the prevailing wage rate." An individual who is unemployed because they refuse to work for less than a wage the market is not offering is not considered involuntarily unemployed.

Short Answer Type Questions

19. Explain diagrammatically the law of Constant Return to Scale.

Correct Answer: Constant Returns to Scale (CRS) occurs when a proportional increase in all inputs results in an exactly proportional increase in output. Diagrammatically, it is shown by an isoquant map where the isoquants are equally spaced along any ray from the origin.

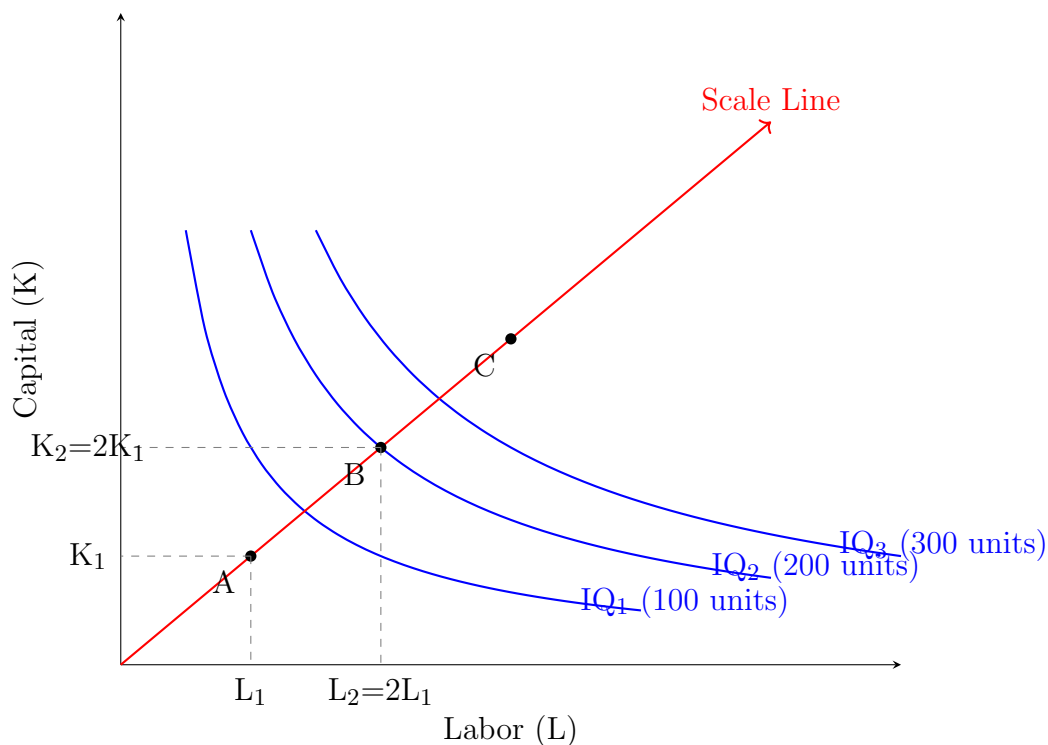
Solution:

Step 1: Understanding the Concept:

The law of returns to scale describes the relationship between inputs and output in the long run when all inputs are variable. Constant Returns to Scale (CRS) is a situation where if a firm increases all its inputs (e.g., labor and capital) by a certain percentage, its output increases by the exact same percentage. For example, if all inputs are doubled, the output also doubles.

Step 2: Diagrammatic Explanation:

Constant returns to scale can be illustrated using an isoquant map. An isoquant represents all combinations of two inputs (like labor and capital) that produce a given level of output.



- The diagram shows an isoquant map with three isoquants: IQ_1 , IQ_2 , and IQ_3 , representing output levels of 100, 200, and 300 units, respectively.
- The ray from the origin (0) is the "scale line," which shows that the ratio of inputs (K/L) remains constant as the firm expands its scale of production.
- At point A, the firm uses K_1 units of capital and L_1 units of labor to produce 100 units of output.
- When the firm doubles its inputs to $K_2 = 2K_1$ and $L_2 = 2L_1$, it moves to point B. As shown, point B lies on the isoquant IQ_2 , which represents 200 units of output.
- The key feature of CRS is that the distance between consecutive isoquants along the scale line is equal ($OA = AB = BC$). This equal spacing indicates that a proportional increase in inputs leads to the same proportional increase in output.

Step 3: Final Answer:

In Constant Returns to Scale, output increases in the same proportion as the increase in all inputs. This is represented by an isoquant map where isoquants corresponding to equal increments in output are equally spaced.

Quick Tip

To remember the three returns to scale visually:

- **Increasing:** Isoquants get closer together.
- **Constant:** Isoquants are equally spaced.
- **Decreasing:** Isoquants get farther apart.

20. What do you understand by demand function ? Why does a demand curve fall from left to right ?

Correct Answer: A demand function is a mathematical expression that shows the relationship between the quantity demanded of a good and its various determinants. A demand curve slopes downward (falls from left to right) due to the inverse relationship between price and quantity demanded, which is explained by the law of diminishing marginal utility, the income effect, and the substitution effect.

Solution:

Part 1: What is a Demand Function?

A demand function is a mathematical equation that expresses the functional relationship between the quantity demanded of a commodity and the various factors that influence this demand. It shows how the quantity demanded of a product depends on its own price, the prices of related goods, the consumer's income, tastes and preferences, etc.

A general demand function can be written as:

$$Q_{dx} = f(P_x, P_r, Y, T, E, \dots)$$

where:

- Q_{dx} = Quantity demanded of good X
- P_x = Price of good X
- P_r = Price of related goods (substitutes or complements)
- Y = Consumer's income
- T = Tastes and preferences
- E = Expectations about future prices

When we simplify this by holding all factors constant except for the price of the good itself (the ceteris paribus assumption), we get a simple demand function like $Q_{dx} = a - bP_x$, which is then used to draw the demand curve.

Part 2: Why does a Demand Curve fall from left to right?

A demand curve falls from left to right, indicating a downward slope. This is a graphical

representation of the **Law of Demand**, which states that, other things being equal, as the price of a commodity falls, its quantity demanded rises, and as the price rises, its quantity demanded falls. The main reasons for this inverse relationship are:

1. **Law of Diminishing Marginal Utility:** As a consumer consumes more and more units of a commodity, the additional satisfaction (marginal utility) derived from each successive unit goes on diminishing. Therefore, the consumer is willing to pay a lower price for additional units, leading to a downward-sloping demand curve.
2. **Income Effect:** When the price of a commodity falls, the real income (or purchasing power) of the consumer increases. With this increased purchasing power, the consumer can buy more of the same commodity.
3. **Substitution Effect:** When the price of a commodity falls, it becomes relatively cheaper compared to its substitutes. Consumers tend to substitute the cheaper good for the more expensive ones, which increases the quantity demanded of the cheaper good.
4. **Entry of New Consumers:** When the price of a commodity falls, new consumers who were previously unable to afford it can now purchase it, thus increasing the overall quantity demanded in the market.

Quick Tip

The slope of the demand curve is a direct visual representation of the Law of Demand. The three core reasons for this law are the income effect, the substitution effect, and diminishing marginal utility.

21. What do you understand by elasticity of demand ?

Correct Answer: Elasticity of demand is a measure of the degree of responsiveness of the quantity demanded of a good to a change in one of its determinants, such as its price, the consumer's income, or the price of related goods.

Solution:

Step 1: Understanding the Concept:

The Law of Demand tells us the direction of the change in quantity demanded when price changes, but it doesn't tell us the magnitude of that change. Elasticity of demand is a quantitative measure that fills this gap. It measures "how much" the quantity demanded changes in response to a change in a variable affecting demand.

Step 2: Detailed Explanation of Types:

While the term can refer to any determinant, it most commonly refers to **Price Elasticity of Demand** (E_p).

- **Price Elasticity of Demand (E_p):** It measures the percentage change in the quantity demanded of a good in response to a one percent change in its price.

$$E_p = \frac{\% \text{ Change in Quantity Demanded}}{\% \text{ Change in Price}}$$

Based on its value, demand can be:

- **Elastic** ($|E_p| > 1$): Quantity demanded is highly responsive to price changes.
- **Inelastic** ($|E_p| < 1$): Quantity demanded is not very responsive to price changes.
- **Unitary Elastic** ($|E_p| = 1$): The percentage change in quantity demanded is equal to the percentage change in price.

Other important types of elasticity include:

- **Income Elasticity of Demand (E_y):** Measures the responsiveness of quantity demanded to a change in consumer income. It helps classify goods as normal or inferior.
- **Cross Elasticity of Demand (E_c):** Measures the responsiveness of the quantity demanded of one good to a change in the price of another good. It helps classify goods as substitutes or complements.

Quick Tip

Think of "elasticity" as "sensitivity" or "responsiveness." High elasticity means high sensitivity. If the question doesn't specify the type, it is usually safe to assume it refers to price elasticity of demand.

22. Explain the Gross National Product at Market Price.

Correct Answer: Gross National Product at Market Price (GNP_{MP}) is the total market value of all final goods and services produced by the normal residents of a country during a financial year, including net factor income from abroad. It is valued at market prices, which include indirect taxes and exclude subsidies.

Solution:

Step 1: Understanding the Concept:

GNP_{MP} is a key aggregate used in national income accounting. To understand it, we must break down each component of its name: "Gross," "National," and "at Market Price."

Step 2: Detailed Explanation of Components:

1. **Gross:** The term "Gross" indicates that the value of depreciation (also known as consumption of fixed capital) has not been subtracted from the total value. Depreciation is the wear and tear of capital goods (like machinery and buildings) during the production process. If we subtract depreciation from GNP, we get Net National Product (NNP).

$$GNP - \text{Depreciation} = NNP$$

2. **National:** The term "National" refers to the income of all the "normal residents" of a country, regardless of where the income is generated. It is different from "Domestic," which refers to all income generated within the geographical boundaries of a country. To convert a domestic product to a national product, we add the Net Factor Income from Abroad (NFIA). NFIA is the difference between the income earned by residents from the rest of the world and the income earned by non-residents within the country.

$$\text{GNP} = \text{GDP} + \text{NFIA}$$

3. **at Market Price (MP):** The term "Market Price" means that the goods and services are valued at the prices at which they are actually sold in the market. This price includes the effect of indirect taxes (like GST) and government subsidies. Indirect taxes increase the market price, while subsidies decrease it. To convert a value at market price to one at factor cost (the cost of production), we subtract net indirect taxes.

$$\text{GNP at Factor Cost} = \text{GNP at Market Price} - \text{Net Indirect Taxes (NIT)}$$

where $\text{NIT} = \text{Indirect Taxes} - \text{Subsidies}$.

Step 3: Final Definition:

Combining these components, **Gross National Product at Market Price (GNP_{MP})** is the market value of all final economic goods and services produced during a financial year by the normal residents of a country. It is calculated as GDP at Market Price plus Net Factor Income from Abroad.

$$\text{GNP}_{\text{MP}} = \text{GDP}_{\text{MP}} + \text{NFIA}$$

Quick Tip

To navigate between different national income aggregates, remember these three key conversions:

- **Gross ↔ Net:** Subtract/Add Depreciation.
- **Domestic ↔ National:** Add/Subtract Net Factor Income from Abroad (NFIA).
- **Market Price ↔ Factor Cost:** Subtract/Add Net Indirect Taxes (NIT).

23. Describe the allocation function and re-distribution function of a government budget.

Correct Answer: The allocation function of a budget involves providing public goods and services that the market cannot, thereby allocating resources efficiently. The redistribution function involves using taxation and transfer payments through the budget to reduce inequalities in the distribution of income and wealth.

Solution:

The government budget is a powerful tool for achieving key economic and social objectives. Two of its primary functions are the allocation function and the redistribution function.

1. Allocation Function:

The allocation function refers to the government's role in influencing the allocation of resources in the economy. The market mechanism is generally efficient at allocating resources for private goods, but it fails in the case of public goods.

- **Provision of Public Goods:** Public goods are goods that are non-rivalrous (one person's consumption doesn't reduce its availability to others) and non-excludable (it's impossible to prevent anyone from consuming it). Examples include national defense, law and order, and public parks. Private firms have no incentive to provide these goods because they cannot charge a price for them (the free-rider problem).
- **Budgetary Role:** The government, through its budget, allocates resources for the provision of these essential public goods. It does this by collecting revenue through taxes and incurring expenditure on these goods and services.
- **Correcting Externalities:** The budget is also used to encourage activities with positive externalities (e.g., subsidies for education) and discourage those with negative externalities (e.g., taxes on pollution).

2. Redistribution Function:

The redistribution function aims to modify the distribution of income and wealth in society to ensure social justice and equity. The market-based distribution of income is often highly unequal.

- **Objective:** To reduce the gap between the rich and the poor and to provide a minimum standard of living for all citizens.
- **Budgetary Tools:** The government uses two main budgetary tools to achieve this:
 1. **Taxation Policy:** The government imposes a ****progressive tax structure****, where the tax rate increases with income. This means higher earners pay a larger proportion of their income in taxes compared to lower earners.
 2. **Expenditure Policy (Transfers and Subsidies):** The revenue collected from taxes is used to fund social security programs, transfer payments (like pensions, unemployment benefits), and provide subsidies on essential goods and services (like food, healthcare, and education) for the poorer sections of society.

Through these measures, the government takes purchasing power from the higher-income groups and transfers it to the lower-income groups, thereby making the final distribution of income more equitable.

Quick Tip

Remember the core purpose of each function:

- **Allocation** = Correcting market failure (providing public goods).
- **Redistribution** = Correcting inequality (making income distribution fairer).

24. What do you understand by supply of money ? Explain the three factors affecting it.

Correct Answer: The supply of money is the total stock of money held by the public at a specific point in time. Three factors affecting it are the monetary policy of the central bank (e.g., reserve ratios), the credit creation process of commercial banks, and the government's deficit financing policies.

Solution:

Part 1: What is Supply of Money?

The supply of money refers to the total stock of money available in an economy at a particular point in time. It is a stock concept, not a flow concept. "Money" here includes currency (coins and paper notes) held by the public and demand deposits that the public holds in commercial banks. It is important to note that the money supply only includes the money held by the "public" and excludes the money held by the central bank and the government, as they are the suppliers of money, not the holders.

In India, the RBI uses various measures of money supply, such as:

- **M1** = Currency with public (C) + Demand Deposits (DD) + Other Deposits with RBI (OD)
- **M2** = M1 + Deposits with Post Office savings banks

Part 2: Three Factors Affecting Supply of Money

The supply of money in an economy is determined by several factors, with the central bank playing the most crucial role. Three key factors are:

1. **Monetary Policy of the Central Bank:** The central bank (like the RBI in India) is the primary controller of the money supply. It uses various instruments to influence the amount of money in circulation and the credit-creating capacity of commercial banks. Key tools include:
 - **Reserve Ratios (CRR and SLR):** The Cash Reserve Ratio (CRR) is the percentage of deposits commercial banks must keep with the central bank. The Statutory Liquidity Ratio (SLR) is the percentage of deposits they must maintain as liquid assets. By increasing these ratios, the central bank reduces the funds available for lending, thus contracting the money supply, and vice versa.
 - **Open Market Operations (OMO):** This involves the buying and selling of government securities by the central bank in the open market. Selling securities soaks up liquidity from the system (reducing money supply), while buying securities injects liquidity (increasing money supply).
2. **Credit Creation by Commercial Banks:** Commercial banks are a major source of money supply through the process of credit creation. Based on the initial deposits they receive and the reserve requirements set by the central bank, they can lend out a multiple of their excess reserves. This process, known as the money multiplier effect, significantly expands the total money supply. The higher the public's propensity to deposit and the lower the reserve ratio, the greater the credit creation.

3. **Government's Fiscal Policy (Deficit Financing):** When the government's expenditure exceeds its revenue, it runs a budget deficit. One way to finance this deficit is by borrowing from the central bank. When the government borrows from the central bank, the central bank prints new currency to provide the loan. This is called deficit financing or monetizing the deficit, and it directly increases the high-powered money and the overall money supply in the economy.

Quick Tip

The central bank controls the "high-powered money" (currency and reserves), but the final money supply is determined by the interaction of the central bank's policies, the lending behavior of commercial banks (the money multiplier), and the public's preference for holding currency versus deposits.

Long Answer Type Questions

25. What is law of Variable Proportion ? How many stages of law of variable proportion are there ?

Solution:

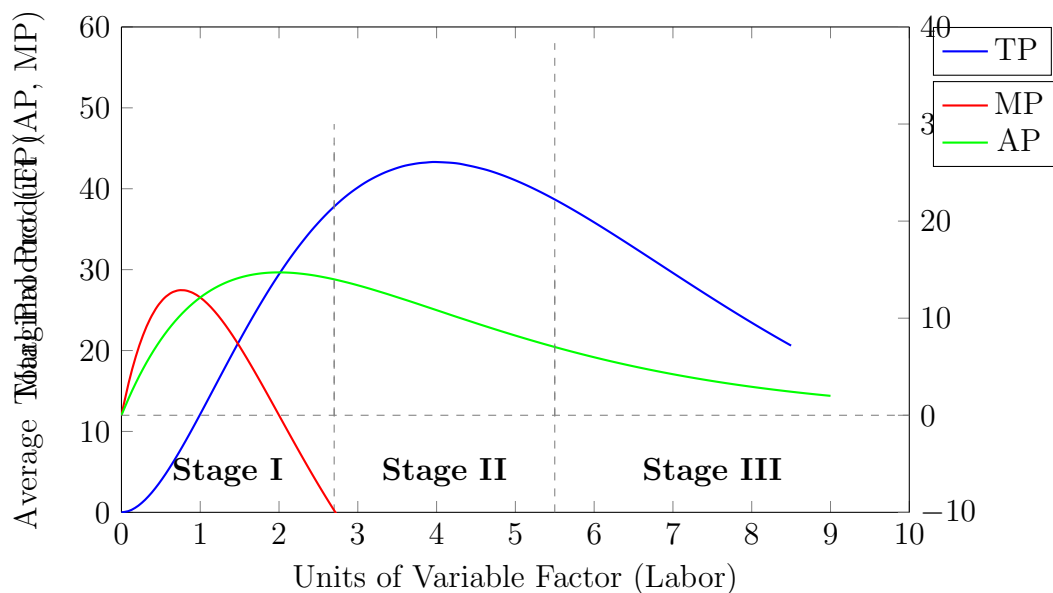
Part 1: Law of Variable Proportions

The law of variable proportions, also known as the law of diminishing marginal product, is a short-run production concept. It states that if one factor of production (the variable factor, e.g., labor) is increased while all other factors (the fixed factors, e.g., capital and land) are held constant, then the total product (TP) will eventually increase at a diminishing rate and ultimately start to fall.

In other words, as the proportion of the variable factor to fixed factors is increased, the marginal product (MP) of the variable factor will eventually decline.

Part 2: Stages of the Law of Variable Proportions

There are three distinct stages in the law of variable proportions, which can be explained with the help of a diagram showing the relationship between Total Product (TP), Average Product (AP), and Marginal Product (MP).



- **Stage I: Stage of Increasing Returns** (From origin to point L_1)
 - TP increases at an increasing rate.
 - MP increases, reaches its maximum, and then starts to decline.
 - AP continuously increases and reaches its maximum at the end of this stage, where $AP = MP$.
 - This stage ends when the average product is at its maximum.
- **Stage II: Stage of Diminishing Returns** (From L_1 to L_2)
 - TP continues to increase, but at a diminishing rate, and it reaches its maximum at the end of this stage.
 - MP continues to fall and becomes zero when TP is at its maximum.
 - AP starts to fall but remains positive.
 - A rational producer will always choose to operate in this stage, as it is the most efficient.
- **Stage III: Stage of Negative Returns** (Beyond point L_2)
 - TP starts to decline.
 - MP becomes negative.
 - AP continues to fall but remains positive.
 - No rational producer would operate in this stage, as adding more variable input actually decreases the total output.

Quick Tip

The relationship between MP and AP is key to identifying the stages. Stage I ends where MP intersects AP at its highest point. Stage II ends where MP hits the x-axis (becomes zero).

OR. Explain with the help of a diagram the relationship between Total Cost, Average Cost and Marginal Cost.

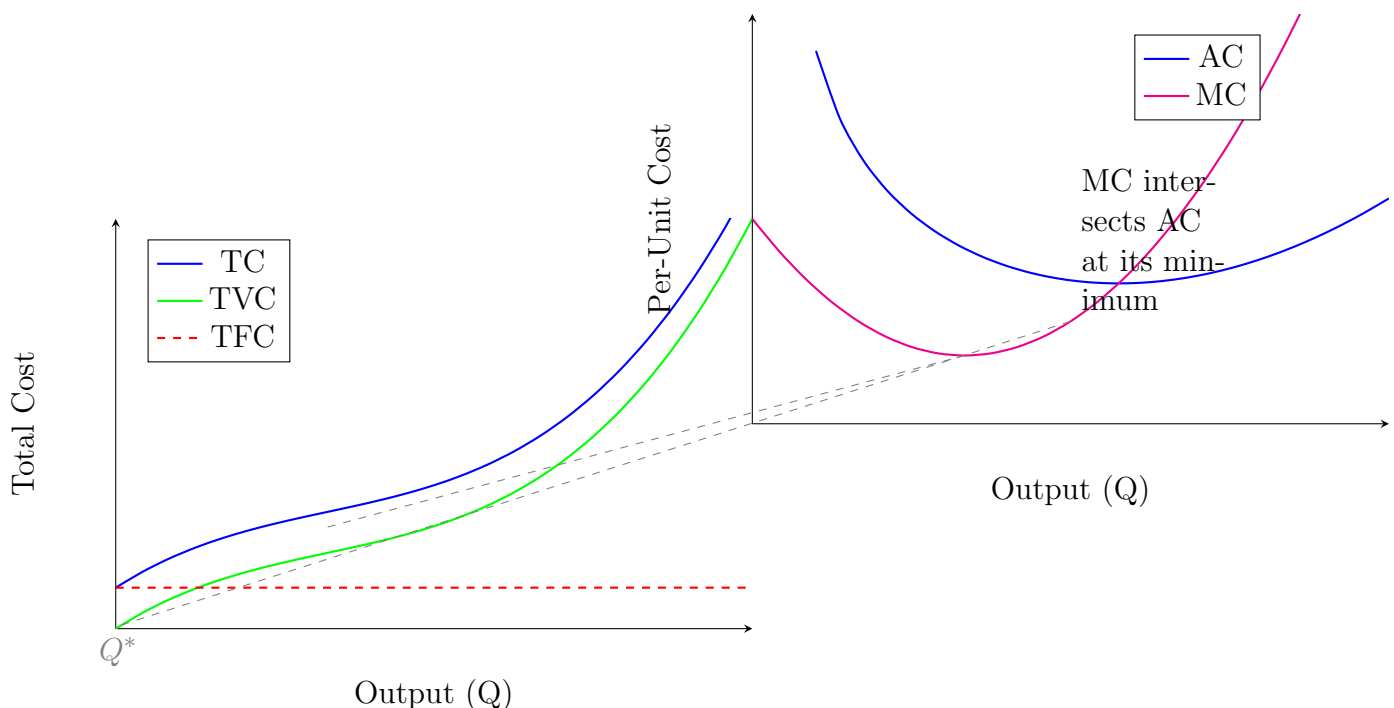
Solution:

Step 1: Definitions of Cost Concepts

- **Total Cost (TC):** It is the total expenditure incurred by a firm to produce a given level of output. It is the sum of Total Fixed Cost (TFC) and Total Variable Cost (TVC). $TC = TFC + TVC$.
- **Average Cost (AC):** It is the cost per unit of output. It is calculated by dividing the total cost by the quantity of output produced. $AC = TC/Q$.
- **Marginal Cost (MC):** It is the addition made to the total cost by producing one more unit of output. $MC = \Delta TC / \Delta Q = TC_n - TC_{n-1}$. Mathematically, MC is the slope of the TC curve.

Step 2: Diagrammatic Representation

The relationship between TC, AC, and MC is shown in the two-panel diagram below. The shapes of these curves are determined by the Law of Variable Proportions.



Step 3: Explanation of the Relationships

The relationships between the cost curves can be summarized as follows:

1. Relationship between TC and MC:

- Marginal Cost (MC) is the slope of the Total Cost (TC) curve.

- The TC curve initially increases at a decreasing rate (becomes flatter) as long as MC is falling. This corresponds to increasing returns to the variable factor.
- The TC curve has its point of inflection (where the slope is minimum) at the level of output where the MC curve reaches its minimum point.
- After the inflection point, the TC curve starts increasing at an increasing rate (becomes steeper) as the MC curve rises. This corresponds to diminishing returns.

2. Relationship between AC and MC: This is the most important relationship.

- Both AC and MC curves are U-shaped due to the law of variable proportions. They initially fall, reach a minimum, and then rise.
- When $MC < AC$, the cost of the additional unit is less than the average cost so far. This pulls the average cost down. Therefore, the AC curve is falling.
- When $MC > AC$, the cost of the additional unit is more than the average cost. This pulls the average cost up. Therefore, the AC curve is rising.
- When $MC = AC$, the AC curve is neither falling nor rising; it is at its minimum point. This is why the **MC curve cuts the AC curve at the lowest point of the AC curve.**

3. Shape of the Curves:

- The Total Cost (TC) curve starts from the level of Total Fixed Cost (TFC) on the Y-axis because there is a fixed cost even at zero output. It is always upward sloping.
- The Average Cost (AC) and Marginal Cost (MC) curves are derived from the TC curve and are typically U-shaped in the short run.

Quick Tip

A helpful analogy for the AC/MC relationship is your grade point average (GPA). If your grade in the next (marginal) subject is lower than your current average, your average will fall. If your grade in the next subject is higher than your average, your average will rise. The marginal always pulls the average in its direction.

26. Explain the concept of Perfect Competition. How is equilibrium of a firm attained in the long run ?

Solution:

Part 1: The Concept of Perfect Competition

Perfect competition is a market structure characterized by the complete absence of rivalry among individual firms. It is a theoretical market model where competition is at its greatest possible level. The key features of a perfectly competitive market are:

1. **Large Number of Buyers and Sellers:** There are so many firms and consumers in the market that no single firm or consumer can influence the market price. Each firm is a "price taker."

2. **Homogeneous Product:** All firms in the industry produce identical products. This means the products are perfect substitutes for each other, and consumers have no preference for the product of one seller over another.
3. **Free Entry and Exit of Firms:** There are no barriers (legal, economic, or technological) to the entry of new firms into the industry or the exit of existing firms. This feature is crucial for the long-run equilibrium.
4. **Perfect Knowledge:** Both buyers and sellers have complete information about the market prices and conditions.
5. **Perfect Mobility of Factors of Production:** Factors of production (land, labor, capital) can move freely from one industry to another.

A direct consequence of these features is that the demand curve facing an individual firm is perfectly elastic (a horizontal line at the market price), which means $Price = AverageRevenue = MarginalRevenue$ ($P = AR = MR$).

Part 2: Long-Run Equilibrium of a Firm

In the long run, a firm in perfect competition can adjust all its inputs, and the number of firms in the industry can change through entry and exit. The equilibrium is determined by the interaction of these long-run adjustments.

The two basic conditions for a firm's equilibrium are:

1. Marginal Cost (MC) must be equal to Marginal Revenue (MR).
2. The MC curve must cut the MR curve from below.

The long-run equilibrium is achieved through the following process:

- **If firms earn supernormal profits (Price > AC):** If existing firms are making profits above the normal level, new firms will be attracted to the industry. This entry of new firms increases the total market supply. The increase in supply will cause the market price to fall. This process continues until the price falls to a level where it is equal to the minimum average cost, and all supernormal profits are eliminated.
- **If firms incur losses (Price < AC):** If existing firms are making losses, some firms will exit the industry. This exit reduces the total market supply. The decrease in supply will cause the market price to rise. This process continues until the price rises to a level where it is equal to the minimum average cost, and all losses are eliminated.

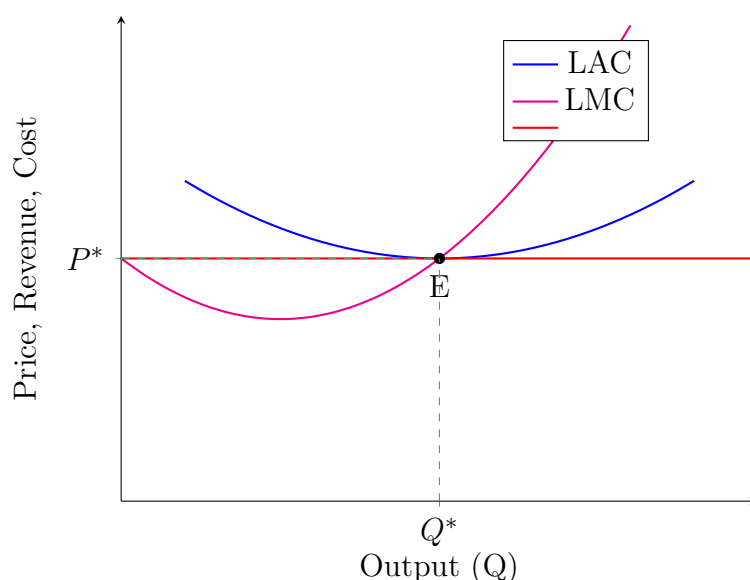
Therefore, the long-run equilibrium is established at the point where firms are earning only ****normal profits****. This occurs at the output level where the price is just sufficient to cover the average cost of production.

The conditions for long-run equilibrium are:

$$P = MR = LMC = \text{Minimum LAC}$$

where LMC is the Long-run Marginal Cost and LAC is the Long-run Average Cost.

Diagrammatic Representation:



In the diagram, the firm is in long-run equilibrium at point E, producing output Q^* . At this point, the price P^* is equal to the firm's marginal cost (LMC) and also equal to the minimum point of its long-run average cost curve (LAC). The firm covers all its costs, including the opportunity cost of the entrepreneur, thus earning only normal profits.

Quick Tip

The key to long-run equilibrium in perfect competition is the "zero-profit condition." The freedom of entry and exit acts as a powerful force that erodes any supernormal profits or losses, forcing every firm to produce at the most efficient scale (minimum LAC).

26. (OR) Explain the concepts of Domestic Product, National Product and Personal Income.

Correct Answer:

- **Domestic Product:** The value of final goods and services produced within the geographical territory of a country.
- **National Product:** The value of final goods and services produced by the normal residents of a country, regardless of location (Domestic Product + Net Factor Income from Abroad).
- **Personal Income:** The income actually received by households and individuals from all sources before the payment of direct taxes.

Solution:

These three concepts are key aggregates in national income accounting, each measuring a different aspect of a country's economic activity.

1. Domestic Product

Domestic Product refers to the total monetary value of all final goods and services produced within the **domestic (geographical) territory** of a country during a given period, usually a year.

- **Key Feature:** The defining characteristic is the location of production. It includes the output produced by all production units located within the country's borders, irrespective of whether they are owned by residents or non-residents.
- **Example:** The value of cars produced by a Hyundai (a South Korean company) factory in India is included in India's Domestic Product. However, the income earned by an Indian citizen working in the USA is not part of India's Domestic Product.
- **Common Measure:** The most widely used measure is Gross Domestic Product (GDP).

2. National Product

National Product refers to the total monetary value of all final goods and services produced by the **normal residents** of a country during a given period, irrespective of where this production takes place (i.e., whether within the domestic territory or abroad).

- **Key Feature:** The defining characteristic is the nationality or residence of the producer. It focuses on the contribution of a country's own factors of production (its citizens and firms).
- **Relationship with Domestic Product:** National Product is derived from Domestic Product by adding the **Net Factor Income from Abroad (NFIA)**.

$$\text{National Product} = \text{Domestic Product} + \text{NFIA}$$

NFIA is the difference between the factor income (wages, rent, profit) earned by the country's residents from the rest of the world and the factor income paid to non-residents working within the country.

- **Example:** The income earned by an Indian citizen working in the USA is part of India's National Product. The profits of the Hyundai factory in India that are sent back to South Korea are subtracted from India's Domestic Product to calculate its National Product.
- **Common Measure:** The most widely used measure is Gross National Product (GNP).

3. Personal Income (PI)

Personal Income is the sum of all incomes **actually received by individuals and households** from all sources during a year. It is different from National Income, which represents the income *earned* by factors of production. Personal income is the income available to households before they pay personal direct taxes like income tax.

- **Key Feature:** It focuses on the income that reaches the hands of individuals. Not all income earned is received (e.g., corporate taxes and retained earnings), and some income is received without being currently earned (transfer payments).
- **Derivation from National Income:** To calculate Personal Income, we start with National Income (NNP at Factor Cost) and make the following adjustments:
 - **Subtract** incomes that are earned but not received by households:

- * Undistributed Corporate Profits (savings of corporations)
- * Corporate Taxes
- * Social Security Contributions made by employees and employers
- **Add** incomes that are received but not currently earned (known as Transfer Payments):
 - * Old-age pensions, unemployment benefits, scholarships
 - * Interest on public debt

Quick Tip

Remember the key difference:

- **Domestic** → Location-based (within the country's borders).
- **National** → Resident-based (by the country's citizens/firms).
- **Personal** → Receipt-based (what households actually get).

27. Write a short note on Foreign Exchange Rate. What are meant by Fixed and Flexible Exchange Rates ?

Solution:

Part 1: Foreign Exchange Rate

The foreign exchange rate (or forex rate) is the rate at which one country's currency can be exchanged for another country's currency. It essentially represents the price of a foreign currency. For example, if the exchange rate between the US dollar and the Indian rupee is \$1 = Rs. 80, it means one US dollar can be bought for 80 Indian rupees.

The foreign exchange rate is a crucial economic variable as it facilitates international trade and investment. It links the economies of different countries by allowing for the comparison of prices and values across borders. Exchange rates are determined in the foreign exchange market, where currencies are bought and sold.

Part 2: Fixed Exchange Rate System

A fixed exchange rate system, also known as a pegged exchange rate system, is a regime where a country's government or central bank officially fixes its currency's exchange rate against another country's currency or a basket of currencies.

- **Mechanism:** To maintain this fixed rate (or "peg"), the central bank must intervene in the foreign exchange market. If the market rate tends to deviate from the fixed rate due to changes in demand or supply, the central bank buys or sells its own currency in exchange for foreign currencies. For instance, to prevent its currency from depreciating, the central bank will sell its foreign exchange reserves and buy its domestic currency.
- **Devaluation and Revaluation:** When the government officially lowers the exchange rate value of its currency, it is called devaluation. When it officially raises the value, it is called revaluation.

- **Advantage:** It provides stability and predictability in international trade and investment.
- **Disadvantage:** It requires the central bank to hold large reserves of foreign currency and can lead to a loss of control over domestic monetary policy.

Part 3: Flexible Exchange Rate System

A flexible exchange rate system, also known as a floating exchange rate system, is a regime where the value of a currency is determined purely by the market forces of demand and supply in the foreign exchange market, without any official government intervention.

- **Mechanism:** The equilibrium exchange rate is found at the point where the quantity of a currency demanded equals the quantity supplied. The demand for a currency arises from foreign demand for the country's exports and assets, while the supply arises from the country's demand for imports and foreign assets.
- **Appreciation and Depreciation:** If the demand for a currency increases, its value rises; this is called appreciation. If the demand falls (or supply increases), its value falls; this is called depreciation.
- **Advantage:** It automatically adjusts to correct deficits or surpluses in the balance of payments and allows the central bank to focus on domestic policy objectives.
- **Disadvantage:** It can be highly volatile, creating uncertainty for businesses involved in international trade.

Quick Tip

To remember the terms:

- **Fixed System:** Changes are official and deliberate → Devaluation (down) and Revaluation (up).
- **Flexible System:** Changes are market-driven → Depreciation (down) and Appreciation (up).

27. (OR) Explain with diagram, the determination of Income in a Two Sector Economy.

Correct Answer: In a two-sector economy (households and firms), the equilibrium level of income is determined at the point where planned Aggregate Demand ($AD = C + I$) equals Aggregate Supply ($AS = Y$). This is shown graphically by the intersection of the AD curve and the 45-degree line. Alternatively, it is where planned Saving (S) equals planned Investment (I).

Solution:

Step 1: Understanding the Two-Sector Model

A two-sector economy is a simplified model of an economy that consists only of households and firms. There is no government sector (no taxes or government spending) and no foreign

sector (no exports or imports). The equilibrium level of national income in this model can be determined by two equivalent approaches: the Aggregate Demand-Aggregate Supply (AD-AS) approach and the Saving-Investment (S-I) approach.

Step 2: Aggregate Demand-Aggregate Supply (AD-AS) Approach

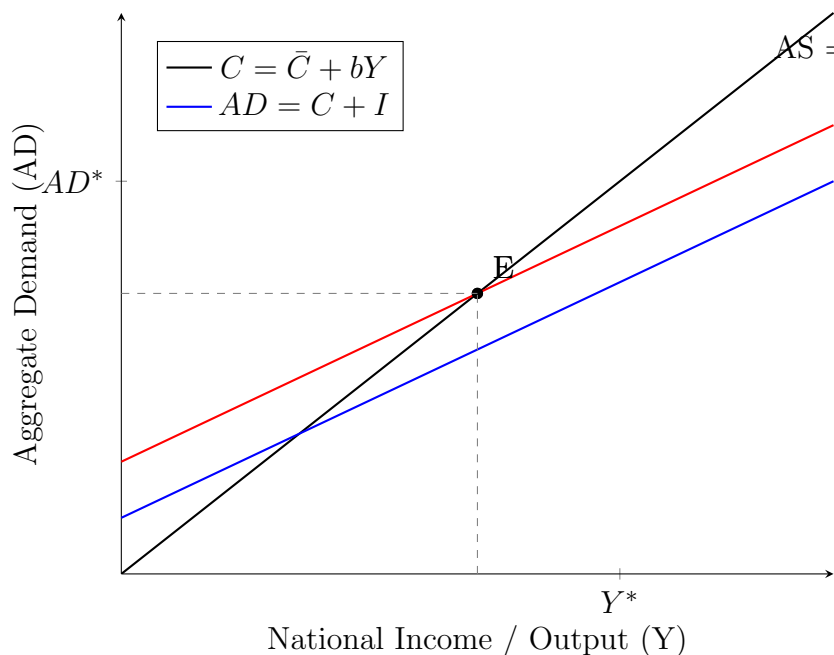
- **Aggregate Supply (AS):** This represents the total value of final goods and services planned to be produced in the economy. It is always equal to the national income (Y). So, $AS = Y$. On a diagram, the AS curve is a 45-degree line from the origin, indicating that at any point on the line, total spending equals total income.
- **Aggregate Demand (AD):** This represents the total planned expenditure in the economy. In a two-sector model, it has two components:
 1. **Consumption Expenditure (C):** Planned spending by households. It is a function of income, given by the consumption function $C = \bar{C} + bY$, where $\bar{C}$ is autonomous consumption (consumption at zero income) and b is the marginal propensity to consume (MPC).
 2. **Investment Expenditure (I):** Planned spending by firms on capital goods. In this simple model, we assume investment is autonomous, meaning it is a constant value ($I = \bar{I}$) and does not depend on the level of income.

Therefore, the aggregate demand function is $AD = C + I = (\bar{C} + \bar{I}) + bY$.

- **Equilibrium Condition:** The economy is in equilibrium when planned aggregate demand is equal to planned aggregate supply.

$$AD = AS \quad \text{or} \quad Y = C + I$$

Diagrammatic Representation (AD-AS Approach):



In the diagram, the equilibrium is at point E, where the AD curve intersects the 45-degree AS line. The corresponding level of income Y^* is the equilibrium level of income. At any income level below Y^* , $AD > AS$, leading to an unplanned decrease in inventories and prompting firms to increase production. At any income level above Y^* , $AD < AS$, leading to an unplanned increase in inventories and prompting firms to decrease production.

Step 3: Saving-Investment (S-I) Approach

This is an alternative expression of the same equilibrium condition.

- We know that Income (Y) is either consumed (C) or saved (S). So, $Y = C + S$.
- The equilibrium condition is $Y = AD = C + I$.
- Equating the two expressions for Y : $C + S = C + I$.
- This simplifies to the equilibrium condition:

$$S = I$$

This means the economy is in equilibrium when planned saving equals planned investment.

Quick Tip

The two approaches ($AD=AS$ and $S=I$) are two sides of the same coin. The $AD=AS$ approach focuses on total spending and total output, while the $S=I$ approach focuses on leakages (Saving) and injections (Investment) from the circular flow of income. In equilibrium, planned leakages must equal planned injections.