UP Board Class 12 Economics - 329(BG) 2023 Question Paper with Solutions

Time Allowed : 3 Hours	Maximum Marks : 100

General Instructions

Read the following instructions very carefully and strictly follow them:

1. All questions are compulsory.
2. Question Nos. 1 to 10 are Multiple Choice Type for which only correct answer should be written in the answer-book, QUestion Numbers 11 to 18 are Very Short Type, which are to be answered in about 50 words each, 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.
3. Marks allotted to the questions are indicated against them.

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1. Which of the following is an economic activity ?
(A) Consumption
(B) Production
(C) Exchange
(D) All of these

Correct Answer: (D) All of these

Solution:
Step 1: Understanding the Concept:
An economic activity is any action that involves producing, distributing, or consuming goods or services. The primary purpose of economic activities is to satisfy human wants and needs, and they typically involve the exchange of money.

Step 2: Detailed Explanation:
Let's analyze the given options:
(a) **Consumption:** This is the act of using goods and services to satisfy wants. It is the final stage of economic activity.
(b) **Production:** This is the process of creating goods or providing services. It's the starting point of most economic cycles.
(c) **Exchange:** This refers to the process of trading goods or services, usually for money. It connects production and consumption.

All three—production, exchange, and consumption—are fundamental components of the economic process. Therefore, they are all considered economic activities.

Step 3: Final Answer:
Since Consumption, Production, and Exchange are all core economic activities, the correct option is (D) All of these.

Quick Tip

In economics, remember the three core activities: Production (creating), Exchange/Distribution (moving), and Consumption (using). If a question asks to identify an economic activity, look for options that fall into one of these categories.

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2. In the case of normal goods, demand curve shows
(A) positive slope
(B) negative slope
(C) zero slope
(D) none of these.

Correct Answer: (B) negative slope

Solution:
Step 1: Understanding the Concept:
The law of demand describes the relationship between the price of a good and the quantity demanded by consumers. For normal goods, this relationship is inverse: as the price of a good increases, the quantity demanded decreases, and vice versa, assuming all other factors remain constant (ceteris paribus).

Step 2: Detailed Explanation:
A demand curve is a graphical representation of this relationship, with price plotted on the vertical (Y) axis and quantity demanded on the horizontal (X) axis.
- An **increase in price** (a move up the Y-axis) leads to a **decrease in quantity demanded** (a move to the left on the X-axis).
- A **decrease in price** (a move down the Y-axis) leads to an **increase in quantity demanded** (a move to the right on the X-axis).
When you connect these points on a graph, the resulting line slopes downwards from left to right. A downward-sloping line has a **negative slope**.

Step 3: Final Answer:
Therefore, the demand curve for normal goods shows a negative slope, reflecting the inverse relationship between price and quantity demanded. The correct option is (B).

Quick Tip

Remember "Demand Down": The Demand curve for normal goods is always Downward sloping. This visual cue helps to quickly recall the negative relationship between price and quantity demanded.

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3. Who propounded indifference curve analysis ?
(A) Marshall
(B) Pigou
(C) Hicks
(D) Robbins

Correct Answer: (C) Hicks

Solution:
Step 1: Understanding the Concept:
Indifference curve analysis is a tool in microeconomics used to study consumer behavior. It shows various combinations of two goods that provide a consumer with an equal level of satisfaction or utility.

Step 2: Detailed Explanation:
The concept of indifference curves was originally developed by Francis Ysidro Edgeworth in 1881 and later refined by Vilfredo Pareto in 1906. However, the modern, comprehensive form of indifference curve analysis was propounded and popularized by Sir John R. Hicks and R.G.D. Allen in the 1930s. Among the given options, Hicks is the correct choice as he was a key figure in developing this theory into its current form.
- **Alfred Marshall** is known for the cardinal utility approach.
- **A.C. Pigou** is known for his work in welfare economics.
- **Lionel Robbins** is known for his definition of economics based on scarcity.

Step 3: Final Answer:
Given the options, J.R. Hicks is the economist credited with propounding the modern indifference curve analysis. Thus, option (C) is correct.

Quick Tip

Associate economists with their major contributions. For indifference curves, the key names to remember are Hicks and Allen, who developed the modern ordinal utility approach, as a refinement of earlier work by Edgeworth and Pareto.

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4. In the present age, how many factors of production are there?
(A) 3
(B) 4

(C) 5
(D) 6

Correct Answer: (B) 4

Solution:
Step 1: Understanding the Concept:
Factors of production are the inputs or resources used in the production process to create goods and services. These are the fundamental building blocks of an economy.

Step 2: Detailed Explanation:
Classical and neoclassical economics identify four main factors of production:
1. **Land:** This includes all natural resources, such as land itself, minerals, forests, and water. The payment for land is rent.
2. **Labor:** This refers to the human effort—physical and mental—used in production. The payment for labor is wages.
3. **Capital:** This includes man-made goods used to produce other goods, such as machinery, tools, and buildings. The payment for capital is interest.
4. **Entrepreneurship:** This is the skill of combining the other three factors to create a business, innovate, and take risks. The reward for entrepreneurship is profit.

While some modern theories suggest additional factors like technology or information, the standard and most widely accepted answer in economics is four.

Step 3: Final Answer:
There are four primary factors of production. Therefore, option (B) is the correct answer.

Quick Tip

A simple acronym to remember the four factors of production is **CELL**: Capital, Entrepreneurship, Land, and Labor. This helps recall them quickly during an exam.

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5. Which of the following indicates fixed cost?
(A) Electricity bill
(B) Expenses on raw material
(C) Wages
(D) Interest on fixed capital

Correct Answer: (D) Interest on fixed capital

Solution:
Step 1: Understanding the Concept:
In business and economics, costs are divided into two main categories: fixed costs and variable costs. **Fixed Costs** are expenses that do not change with the level of production or sales.

They have to be paid even if the company produces nothing. Examples include rent, salaries of administrative staff, insurance, and interest payments on loans.
Variable Costs are expenses that change in direct proportion to the level of production. Examples include raw materials, direct labor wages, and electricity used for production.

Step 2: Detailed Explanation:
Let's analyze the options:
(A) **Electricity bill:** This is typically a variable cost (or semi-variable) because more production usually requires more electricity.
(B) **Expenses on raw material:** This is a classic variable cost. The more you produce, the more raw materials you need.
(C) **Wages:** This can be either fixed (e.g., monthly salaries for managers) or variable (e.g., hourly wages for production workers). However, it is not always a purely fixed cost.
(D) **Interest on fixed capital:** Fixed capital refers to assets like machinery and buildings. The interest on loans taken to purchase this capital is a fixed payment that must be made regardless of production levels. This makes it a clear example of a fixed cost.

Step 3: Final Answer:
Among the given options, interest on fixed capital is the clearest and most definitive example of a fixed cost. The correct option is (D).

Quick Tip

To identify a fixed cost, ask yourself: "Does this cost have to be paid even if the company shuts down production for a month?" If the answer is yes (like rent or interest on a loan), it's a fixed cost.

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6. Who imposes Income Tax?
(A) Central Government
(B) State Governments
(C) Local Governments
(D) All of these.

Correct Answer: (A) Central Government

Solution:
Step 1: Understanding the Concept:
In a federal system like India, the power to levy taxes is divided between the central, state, and local governments as defined by the Constitution. Direct taxes, such as income tax, and indirect taxes form the main sources of government revenue.

Step 2: Detailed Explanation:
In India, the authority to levy income tax (on income other than agricultural income) is vested with the **Central Government**. This is specified under the Constitution of India. The Income Tax Act, 1961, governs the imposition of income tax. The Central Board of Direct Taxes

(CBDT), which is a part of the Ministry of Finance, is responsible for the administration of direct taxes, including income tax.
- **State Governments** have the power to levy taxes on agricultural income, stamp duty, state excise, etc.
- **Local Governments** (like municipalities) levy property taxes, water taxes, etc.

Step 3: Final Answer:
Therefore, the income tax is imposed by the Central Government. The correct option is (A).

Quick Tip

Remember that major, nationwide taxes like Income Tax and Goods and Services Tax (GST, with its dual components) are primarily under the control of the Central Government in India, while states handle more localized taxes like VAT on alcohol and stamp duty.

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7. For controlling inflation, Bank Rate is
(A) increased
(B) decreased
(C) kept constant
(D) decreased to zero.

Correct Answer: (A) increased

Solution:
Step 1: Understanding the Concept:
The Bank Rate (or discount rate) is the interest rate at which a nation's central bank (like the Reserve Bank of India) lends money to commercial banks. It is a key tool of monetary policy used to manage the money supply, control credit, and stabilize prices. Inflation refers to a sustained increase in the general price level of goods and services in an economy.

Step 2: Detailed Explanation:
To control high inflation, the central bank aims to reduce the money supply and curb spending in the economy. This is achieved through a contractionary (or tight) monetary policy.
- The central bank **increases** the Bank Rate.
- This makes borrowing from the central bank more expensive for commercial banks.
- Commercial banks, in turn, increase their own lending rates for loans to businesses and individuals.
- Higher borrowing costs discourage spending and investment, reducing the overall demand for goods and services.
- This reduction in demand helps to slow down the rate at which prices are rising, thereby controlling inflation.

Conversely, to combat a recession, the central bank would decrease the bank rate to encourage spending.

Step 3: Final Answer:
To control inflation, the central bank increases the Bank Rate. The correct option is (A).

Quick Tip

Think of it this way: **Inflation is like an overheating engine**. To cool it down, you need to apply the brakes. Increasing the bank rate is like applying the brakes on the economy—it slows down borrowing and spending.

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8. If MPS = 0.4, then MPC will be
(A) 40%
(B) 50%
(C) 60%
(D) 70%.

Correct Answer: (C) 60%

Solution:
Step 1: Understanding the Concept:
In Keynesian economics, any change in disposable income (ΔYd) is either consumed or saved. - **Marginal Propensity to Consume (MPC)** is the proportion of an additional unit of income that is consumed. $MPC = \frac{\Delta C}{\Delta Yd}$. - **Marginal Propensity to Save (MPS)** is the proportion of an additional unit of income that is saved. $MPS = \frac{\Delta S}{\Delta Yd}$.

Step 2: Key Formula or Approach:
The sum of the MPC and the MPS is always equal to 1, because the entire additional income is either spent or saved.

$$MPC + MPS = 1$$

Step 3: Detailed Explanation:
We are given the value of MPS:

$$MPS = 0.4$$

Using the formula from Step 2, we can find the MPC:

$$MPC + 0.4 = 1$$

$$MPC = 1 - 0.4$$

$$MPC = 0.6$$

To express this as a percentage, we multiply by 100:

$$MPC = 0.6 \times 100\% = 60\%$$

Step 4: Final Answer:
If MPS is 0.4, then MPC will be 0.6, which is equivalent to 60%. The correct option is (C).

Quick Tip

Remember that MPC and MPS are two sides of the same coin (an extra dollar of income). They must always add up to 1 (or 100%). If you know one, you can instantly find the other by subtracting it from 1.

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9. Where is the headquarters of Reserve Bank of India ?
(A) New Delhi
(B) Mumbai
(C) Kolkata
(D) Chennai.

Correct Answer: (B) Mumbai

Solution:
Step 1: Understanding the Concept:
The Reserve Bank of India (RBI) is India's central bank and regulatory body responsible for the regulation of the Indian banking system. Its headquarters, also known as the Central Office, is where the Governor sits and where policies are formulated.

Step 2: Detailed Explanation:
The Reserve Bank of India was established on April 1, 1935. Its Central Office was initially established in Calcutta (now Kolkata). However, it was permanently moved to Bombay (now Mumbai) in 1937.
Therefore, the current headquarters of the RBI is in Mumbai, Maharashtra.

Step 3: Final Answer:
The headquarters of the Reserve Bank of India is located in Mumbai. The correct option is (B).

Quick Tip

Mumbai is known as the financial capital of India. It makes sense that the headquarters of the country's central bank, the RBI, is located there. Associate RBI with Mumbai for quick recall.

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10. Who is the Finance Minister of India ?
(A) Narendra Modi
(B) Amit Shah
(C) Rajnath Singh
(D) Nirmala Sitharaman.

Correct Answer: (D) Nirmala Sitharaman.

Solution:
Step 1: Understanding the Question:
The question asks to identify the current Finance Minister of India from the given list of prominent political figures. This is a question of current affairs related to the Indian government.

Step 2: Detailed Explanation:
Let's analyze the roles of the individuals listed:
- **Narendra Modi** is the Prime Minister of India.
- **Amit Shah** is the Minister of Home Affairs.
- **Rajnath Singh** is the Minister of Defence.
- **Nirmala Sitharaman** has been serving as the Minister of Finance and Minister of Corporate Affairs of the Government of India since 2019. She is India's first full-time female finance minister.

Step 3: Final Answer:
Based on the current cabinet of the Government of India, Nirmala Sitharaman holds the position of Finance Minister. The correct option is (D).

Quick Tip

For questions about current government positions, it's crucial to stay updated with current affairs. Key cabinet positions like Finance Minister, Home Minister, and Defence Minister are frequently asked in competitive exams.

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11. What is Micro-economics?

Answer: Microeconomics is the branch of economics that studies the behavior and decision-making of individual economic agents, such as households, firms, and individuals. It focuses on how these agents allocate scarce resources and how their choices interact in specific markets for goods and services.

Quick Tip

Remember that "micro" means small. Microeconomics deals with the small-scale economic decisions of individuals and businesses, unlike macroeconomics, which looks at the economy as a whole.

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12. What do you understand by 'Demand' ?

Answer: In economics, demand refers to the quantity of a good or service that consumers are willing and able to purchase at various prices during a specific period. It is not just the desire for a product but must be backed by the purchasing power and willingness to pay.

Quick Tip

Think of demand as a combination of three things: Desire, Ability to pay, and Willingness to pay. All three must be present for demand to exist in an economic sense.

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13. What are complementary goods?

Answer: Complementary goods are products that are consumed together. The demand for one good is directly related to the demand for the other; if the price of one good decreases, the demand for its complement increases. Common examples include cars and gasoline, printers and ink cartridges, and coffee and sugar.

Quick Tip

Remember "complements complete each other." If you buy one, you are likely to buy the other. Think of peanut butter and jelly—the demand for one is tied to the other.

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14. What is production function ?

Answer: A production function is a technical relationship that shows the maximum quantity of output that can be produced from a given set of inputs (like labor, capital, and land). It is represented by the equation $Q = f(L, K)$, where Q is the output, L is labor, and K is capital.

Quick Tip

Think of the production function as a recipe. It tells you the maximum amount of cake (output) you can bake with a specific combination of ingredients (inputs).

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15. What do you understand by full employment ?

Answer: Full employment is an economic situation in which all available labor resources are being used in the most efficient way possible. It does not mean zero unemployment, but rather a low level of unemployment (typically 4-5%) that accounts for frictional and structural unemployment, known as the natural rate of unemployment. It implies the absence of cyclical or demand-deficient unemployment.

Quick Tip

Full employment doesn't mean 100% of people have jobs. It means everyone who wants a job can find one at the prevailing wage rate, with some natural "in-between jobs" unemployment still existing.

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16. What is Money?

Answer: Money is anything that is generally accepted as a medium of exchange for goods and services and for the repayment of debts. It serves three primary functions: a medium of exchange, a unit of account (a measure of value), and a store of value.

Quick Tip

Remember the three core functions of money with the acronym "M.U.S.": Medium of exchange, Unit of account, and Store of value.

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17. What is meant by Government Budget ?

Answer: A government budget is an annual financial statement that presents the government's anticipated revenues (from taxes and other sources) and proposed expenditures for a fiscal year. It is a plan for how the government will spend its money and how it will pay for its activities, reflecting the government's economic and political priorities.

Quick Tip

Think of a government budget like a household budget, but on a massive scale. It's a plan detailing expected income (revenue) and planned spending (expenditure) for the upcoming year.

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18. What is meant by involuntary unemployment?

Answer: Involuntary unemployment occurs when a person is willing and able to work at the prevailing wage rate but cannot find a job. This type of unemployment arises from factors beyond the individual's control, such as a recession leading to a lack of aggregate demand (cyclical unemployment) or a mismatch of skills (structural unemployment).

Quick Tip

The key word is "involuntary." The person wants to work but is forced into unemployment by economic conditions, distinguishing it from "voluntary" unemployment where someone chooses not to work.

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19. Explain important factors affecting demand.

Answer: The important factors that affect the demand for a commodity are:
1. Price of the Good: According to the law of demand, there is an inverse relationship between the price of a good and the quantity demanded, ceteris paribus.
2. Income of the Consumer: For normal goods, demand increases as income rises. For inferior goods, demand decreases as income rises.
3. Prices of Related Goods:

- **Substitute Goods:** An increase in the price of a substitute (e.g., tea) leads to an increase in the demand for the good (e.g., coffee).
- **Complementary Goods:** An increase in the price of a complement (e.g., gasoline) leads to a decrease in the demand for the good (e.g., cars).

4. Tastes and Preferences: A favorable change in consumer tastes or preferences for a product will increase its demand.
5. Consumer Expectations: Expectations of a future rise in price may lead to an increase in current demand.
6. Number of Buyers: An increase in the number of consumers in the market increases the market demand for the good.

Quick Tip

Use the acronym **TIPSE** to remember the shifters of demand: **T**astes and Preferences, **I**ncome, **P**rices of related goods, **S**ize of the market (number of buyers), and **E**xpectations of future prices.

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20. Calculate marginal production and average production from the following data:

Units of Labour	1	2	3
Total Production	20	36	48

Answer: The calculations for Marginal Production (MP) and Average Production (AP) are as follows:
Formulas:

- Average Production (AP) = Total Production / Units of Labour
- Marginal Production (MP) = Change in Total Production / Change in Units of Labour

Calculations:

- **For 1 unit of Labour:**
  - AP = 20 / 1 = 20
  - MP = (20 - 0) / (1 - 0) = 20
- **For 2 units of Labour:**
  - AP = 36 / 2 = 18
  - MP = (36 - 20) / (2 - 1) = 16
- **For 3 units of Labour:**
  - AP = 48 / 3 = 16
  - MP = (48 - 36) / (3 - 2) = 12

Result Table:

Units of Labour	Total Production	Average Production (AP)	Marginal Production (MI
1	20	20	20
2	36	18	16
3	48	16	12

Quick Tip

Remember, "Average" is the total divided by the number of units. "Marginal" means the additional output from one more unit of input. The marginal value is the change between steps.

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21. What is perfect competition? Highlight its salient features.

Answer: Perfect competition is a market structure where a large number of buyers and sellers trade a homogeneous (identical) product, and no single buyer or seller can influence the market price. Firms in this market are "price takers."

Salient Features of Perfect Competition:

- **Large Number of Buyers and Sellers:** The market consists of so many participants that no single individual has any control over the price.
- **Homogeneous Product:** All firms sell an identical product. From the consumer's perspective, the product of one firm is a perfect substitute for the product of another.
- **Freedom of Entry and Exit:** Firms can freely enter the industry to earn profits and exit if they are incurring losses. There are no barriers to entry or exit.
- **Perfect Knowledge:** Both buyers and sellers have complete information about the market conditions, including prices and quality of the product.
- **Perfect Mobility of Factors of Production:** Resources like labor and capital can move freely from one firm to another or from one industry to another.

- **No Selling Costs:** Since the products are homogeneous, there is no need for advertising or other sales promotion activities.

Quick Tip

Perfect competition is a theoretical benchmark. While few real-world markets are truly "perfect," agricultural markets (like for wheat or corn) are often cited as the closest examples.

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22. Highlight the important functions of Reserve Bank of India.

Answer: The Reserve Bank of India (RBI) is the central bank of India. Its important functions include:

- **Issuer of Currency:** The RBI has the sole authority to issue currency notes in India, except for the one-rupee note which is issued by the Ministry of Finance. This ensures uniformity in the circulation of money.
- **Banker to the Government:** It acts as the banker, agent, and advisor to the Central and State Governments. It manages government accounts, public debt, and provides loans and advances to the government.
- **Banker's Bank and Supervisor:** The RBI acts as the bank for all commercial banks. It holds a part of their cash reserves, lends them funds when needed, and provides a centralized clearing and remittance facility. It also regulates and supervises the banking sector.
- **Controller of Credit and Money Supply:** This is one of its most crucial functions. The RBI uses various monetary policy tools (like Bank Rate, Repo Rate, Cash Reserve Ratio) to control the supply of money and credit in the economy to achieve price stability and economic growth.
- **Custodian of Foreign Exchange Reserves:** The RBI manages the country's foreign exchange reserves to maintain the stability of the external value of the rupee and to facilitate foreign trade and payments.

Quick Tip

Think of the RBI as the "head of the family" for the Indian financial system. It manages the country's money, advises the government on financial matters, and supervises all other banks to ensure the system is healthy.

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23. Explain the principal components of money supply.

Answer: The money supply refers to the total stock of money in circulation in an economy at a particular point in time. In India, the RBI uses different measures of money supply, with M1 and M3 being the most common. The principal components are:

- **Currency with the Public (C):** This includes currency notes and coins held by the public. It is the most liquid form of money.
- **Demand Deposits with the Banking System (DD):** These are deposits in bank accounts (like current and savings accounts) that can be withdrawn on demand by writing a cheque or using a debit card. These are also highly liquid.
- **Other Deposits with the RBI (OD):** This is a small component and includes deposits held by the RBI from quasi-governmental bodies, foreign central banks, and international financial institutions.
- **Net Time Deposits with the Banking System:** These are deposits with a fixed maturity period, such as Fixed Deposits (FDs) and Recurring Deposits (RDs). These are less liquid than demand deposits.

These components are combined to form various measures of money supply:
M1 = Currency with the Public + Demand Deposits + Other Deposits with the RBI (This is also known as 'Narrow Money')
M3 = M1 + Net Time Deposits with the Banking System (This is known as 'Broad Money')

Quick Tip

A simple way to remember the components is to think about how you access your money. You have cash in your wallet (Currency), money in your checking/savings account (Demand Deposits), and maybe money in a fixed deposit (Time Deposits). These are the core components of money supply.

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24. Write the meaning of Direct Tax. Highlight its important advantages.

Answer: Meaning of Direct Tax:
A direct tax is a tax that is levied directly on the income or wealth of a person or a corporation. The liability to pay the tax and the actual burden of the tax fall on the same person. This means the taxpayer cannot shift the burden of the tax to someone else. Examples include Income Tax, Corporate Tax, and Wealth Tax.

Important Advantages of Direct Tax:

- **Equity (Progressive in Nature):** Direct taxes can be designed to be progressive, meaning that higher income earners pay a larger percentage of their income as tax. This helps in reducing income inequalities in society.
- **Certainty:** The taxpayer knows exactly how much tax they need to pay, and the government can estimate its revenue with a fair degree of certainty. The tax rates are fixed and announced in advance.

- **Elasticity:** The revenue from direct taxes can increase or decrease automatically with changes in the national income or wealth. As the economy grows and incomes rise, tax revenues also increase without any change in the tax rates.
- **Civic Consciousness:** Since individuals feel the direct pinch of the tax, they are more likely to be conscious of how the government spends their money. This promotes accountability and responsible governance.
- **Economical:** The cost of collecting direct taxes is generally lower compared to indirect taxes, as many taxes (like income tax) are deducted at the source itself (TDS).

Quick Tip

Remember "Direct tax is paid Directly." The person who earns the income pays the tax directly to the government. You can't ask your friend to pay your income tax for you—the burden is non-transferable.

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25. What do you understand by Indifference curve ? Explain Consumer's Equilibrium with the help of Indifference curves.

Answer: An indifference curve is a graphical representation of various combinations of two goods that provide a consumer with the same level of satisfaction or utility. The consumer is therefore "indifferent" to any combination of goods on the same curve.
Properties of Indifference Curves:

- **Downward Sloping:** To consume more of one good, the consumer must give up some quantity of the other good to maintain the same level of satisfaction.
- **Convex to the Origin:** This reflects the diminishing Marginal Rate of Substitution (MRS). MRS is the rate at which a consumer is willing to substitute one good for another. As a consumer has more of a good, they are willing to give up less of the other good to get an additional unit of it.
- **Higher Indifference Curve represents Higher Satisfaction:** Any combination on a higher IC is preferred to any combination on a lower IC.
- **Indifference Curves Never Intersect:** If they did, it would imply a logical contradiction in consumer preferences.

Consumer's Equilibrium:
Consumer's equilibrium refers to a situation where a consumer spends their given income on the purchase of goods in such a way that maximizes their total satisfaction, with no tendency to change.
Conditions for Consumer's Equilibrium:

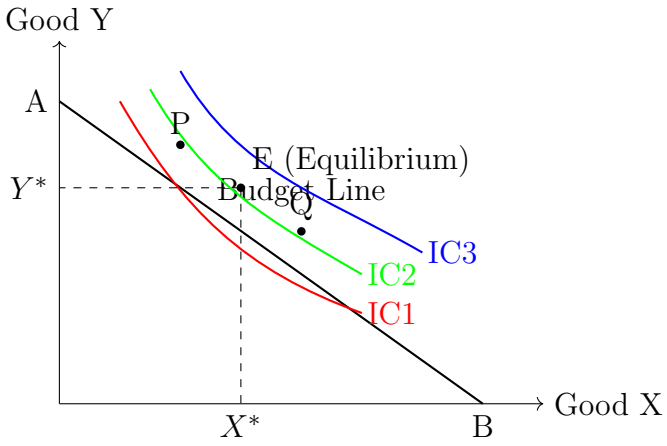
1. **The budget line should be tangent to the indifference curve.** At the point of tangency, the slope of the indifference curve (Marginal Rate of Substitution, MRS) is

equal to the slope of the budget line (price ratio of the two goods).

$$MRS_{xy} = \frac{P_x}{P_y}$$

2. **The indifference curve must be convex to the origin at the point of equilibrium.** This ensures that the MRS is diminishing, which is a necessary condition for a stable equilibrium.

Explanation with a Diagram:
In the diagram below, AB is the budget line, which shows the different combinations of Good X and Good Y that the consumer can afford with their given income. IC1, IC2, and IC3 are indifference curves representing different levels of satisfaction.



- The consumer can afford points P and Q, but they lie on a lower indifference curve (IC1), providing less satisfaction.
- Any point on IC3 is desirable but is beyond the consumer's budget line.
- Point E is the equilibrium point where the budget line AB is tangent to the highest attainable indifference curve, IC2. At point E, the consumer buys X^* units of Good X and Y^* units of Good Y, achieving maximum satisfaction.

Quick Tip

To explain consumer's equilibrium, always remember the two key conditions: Tangency (MRS = Price Ratio) and Convexity. The diagram is crucial; ensure you clearly label the budget line, indifference curves, and the equilibrium point where tangency occurs.

(OR)

What is Elasticity of Demand ? Explain percentage method of its measurement.

Answer: Price elasticity of demand is a measure of the degree of responsiveness of the quantity demanded of a good to a change in its own price. It quantifies how much the quantity demanded

changes when the price changes. It is calculated as the percentage change in quantity demanded divided by the percentage change in price.
In simple terms, it tells us how sensitive consumers are to a price change.

- If a small change in price causes a large change in quantity demanded, demand is **elastic** ($|E_d| > 1$).
- If a large change in price causes a small change in quantity demanded, demand is **inelastic** ($|E_d| < 1$).
- If a change in price causes a proportional change in quantity demanded, demand is **unitary elastic** ($|E_d| = 1$).

Percentage Method of Measurement:
The percentage method is the most common way to calculate price elasticity of demand. It measures elasticity by dividing the percentage change in quantity demanded by the percentage change in price.
The formula is:

$$E_d = \frac{\text{Percentage Change in Quantity Demanded}}{\text{Percentage Change in Price}}$$

This can be expressed as:

$$E_d = \frac{\frac{\Delta Q}{Q} \times 100}{\frac{\Delta P}{P} \times 100} = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

Where:

- E_d = Price elasticity of demand
- ΔQ = Change in quantity demanded ($Q_{new} - Q_{old}$)
- ΔP = Change in price ($P_{new} - P_{old}$)
- P = Original price
- Q = Original quantity demanded

The value of E_d is usually negative due to the inverse relationship between price and quantity demanded, but we often consider its absolute value for interpretation.

Numerical Example:
Suppose the price of a coffee cup increases from \$4 to \$5. As a result, the quantity demanded per day falls from 200 cups to 150 cups.

- Original Price (P) = \$4
- New Price (P_{new}) = \$5
- Original Quantity (Q) = 200 cups
- New Quantity (Q_{new}) = 150 cups

Step 1: Calculate the changes in price and quantity.

$$\Delta P = \$5 - \$4 = \$1$$

$$\Delta Q = 150 - 200 = -50 \text{ cups}$$

Step 2: Calculate the percentage changes.

$$\% \text{ Change in Price} = \frac{\Delta P}{P} \times 100 = \frac{1}{4} \times 100 = 25\%$$

$$\% \text{ Change in Quantity Demanded} = \frac{\Delta Q}{Q} \times 100 = \frac{-50}{200} \times 100 = -25\%$$

Step 3: Calculate Elasticity.

$$E_d = \frac{-25\%}{25\%} = -1$$

Conclusion: Since the absolute value of elasticity is 1, the demand for coffee in this price range is unitary elastic. A 25% increase in price led to exactly a 25% decrease in quantity demanded.

Quick Tip

When using the percentage method, be careful to use the *original* price and quantity as the base for your percentage calculations. A clear, step-by-step numerical example is the best way to explain this method in an exam.

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26. What do you understand by National Income ? Explain the production method of its estimation.

Answer: National Income is the total money value of all final goods and services produced by the normal residents of a country in a financial year. It is the sum total of factor incomes (rent, wages, interest, and profit) earned by the normal residents of a country during an accounting year. National Income is represented by Net National Product at Factor Cost (NNP_{FC}). It is a key indicator of a country's economic performance and health.

Production Method (or Value Added Method):
The production method measures national income by calculating the total value added at each stage of production. It involves summing up the Gross Value Added (GVA) by all producing enterprises within the domestic territory of a country during a year. This sum gives the Gross Domestic Product at Market Price (GDP_{MP}).
Steps for Estimation:

1. **Identify and Classify Production Units:** All producing enterprises are classified into three main sectors:
   - **Primary Sector:** Agriculture, forestry, fishing, mining.
   - **Secondary Sector:** Manufacturing, construction, electricity, gas, and water supply.
   - **Tertiary Sector:** Services like trade, transport, banking, and public administration.
2. **Calculate Gross Value Added (GVA):** For each sector, GVA is calculated by subtracting the value of intermediate consumption from the value of output.

   $$\text{GVA} = \text{Value of Output} - \text{Intermediate Consumption}$$

   Where, Value of Output = Sales + Change in Stock (Closing Stock − Opening Stock).

3. **Calculate Gross Domestic Product at Market Price ($\mathbf{GDP_{MP}}$):** The GVA of all three sectors is summed up to get GDP_{MP}.

$$GDP_{MP} = \sum \text{GVA of all sectors}$$

4. **Calculate National Income ($\mathbf{NNP_{FC}}$):** To arrive at National Income, we make the following adjustments to GDP_{MP}:

   National Income (NNP_{FC}) = GDP_{MP} − Depreciation − Net Indirect Taxes (NIT) + Net Factor Income

   Where, NIT = Indirect Taxes - Subsidies.

Precautions:

- **Avoid Double Counting:** The value of intermediate goods should not be included; only the value of final goods or the value added at each stage should be considered.
- **Inclusion of Self-Consumption:** Production of goods for self-consumption should be included in the estimation.
- **Exclusion of Second-Hand Goods:** The sale and purchase of second-hand goods are not included as they were part of the production in a previous year. However, any commission earned on such sales is included.
- **Imputed Value:** The imputed rent of owner-occupied houses should be included.

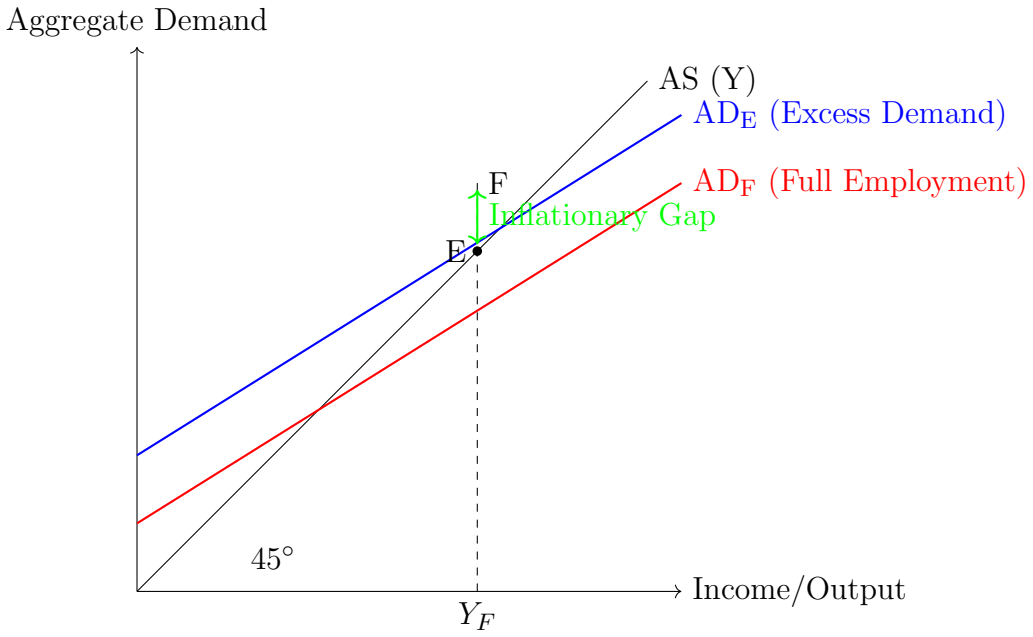
Quick Tip

The key to the production method is the concept of "Value Added" to avoid the problem of double-counting. Remember the journey from GDP_{MP} to NNP_{FC}: Subtract depreciation, subtract net indirect taxes, and add net factor income from abroad.

(OR)

What is Excess Demand ? Discuss its important causes.

Answer: Excess Demand, also known as an inflationary gap, refers to a macroeconomic situation where the aggregate demand (AD) for goods and services in an economy is greater than the aggregate supply (AS) at the full employment level of output. In this situation, the economy is trying to spend more than it is capable of producing, as all resources are already fully employed. This excess pressure on demand leads to a persistent rise in the general price level, causing inflation.
The diagram below shows the AS curve (45-degree line) and two AD curves. AD_F represents the aggregate demand required for full employment equilibrium at point E. AD_E represents the actual (excess) aggregate demand. The vertical distance between AD_E and AD_F (gap EF) is the inflationary gap.



Important Causes of Excess Demand:
Excess demand arises due to an increase in any of the components of aggregate demand (AD = C + I + G + (X-M)). The main causes are:

1. **Increase in Consumption Expenditure (C):** This can be due to:
   - A rise in the marginal propensity to consume (MPC) or a fall in the marginal propensity to save (MPS).
   - Increased availability of credit and lower interest rates, encouraging borrowing and spending.
2. **Increase in Private Investment Expenditure (I):**
   - Optimistic business expectations about future profits.
   - Lower interest rates, which make borrowing for investment cheaper.
3. **Increase in Government Expenditure (G):**
   - A rise in government spending on infrastructure, defense, or social welfare programs without a corresponding increase in taxes.
4. **Increase in Net Exports (X-M):**
   - A rise in exports due to higher demand from other countries or a fall in the exchange rate.
   - A fall in imports due to factors like higher tariffs.
5. **Increase in Money Supply:** An expansionary monetary policy (often called "printing money" or quantitative easing) increases the purchasing power in the economy, leading to higher aggregate demand.
6. **Decrease in Taxes:** Lower direct or indirect taxes leave households and firms with more disposable income, which can lead to higher consumption and investment.

Quick Tip

Remember that Excess Demand = Inflationary Gap. The causes are simply any factors that boost spending in the economy. Think about what would make households (C), firms (I), the government (G), or foreigners (X-M) want to buy more goods and services.

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27. How is the price of a commodity determined under Perfect Competition ? Explain with the help of an example and diagram.

Answer: In a perfectly competitive market, the price of a commodity is determined by the collective forces of market demand and market supply. No individual firm or buyer can influence the price; they are "price takers." The price is set at the equilibrium point where the total quantity demanded by all consumers equals the total quantity supplied by all producers in the industry.

Determination of Equilibrium Price:

- **Market Demand:** It is the sum of the quantities demanded by all buyers at different prices. The market demand curve is downward sloping, indicating that consumers will buy more at a lower price.
- **Market Supply:** It is the sum of the quantities supplied by all firms at different prices. The market supply curve is upward sloping, indicating that producers will sell more at a higher price.

The equilibrium price is established where the market demand curve intersects the market supply curve. At this point, there is neither a shortage nor a surplus of the commodity in the market.

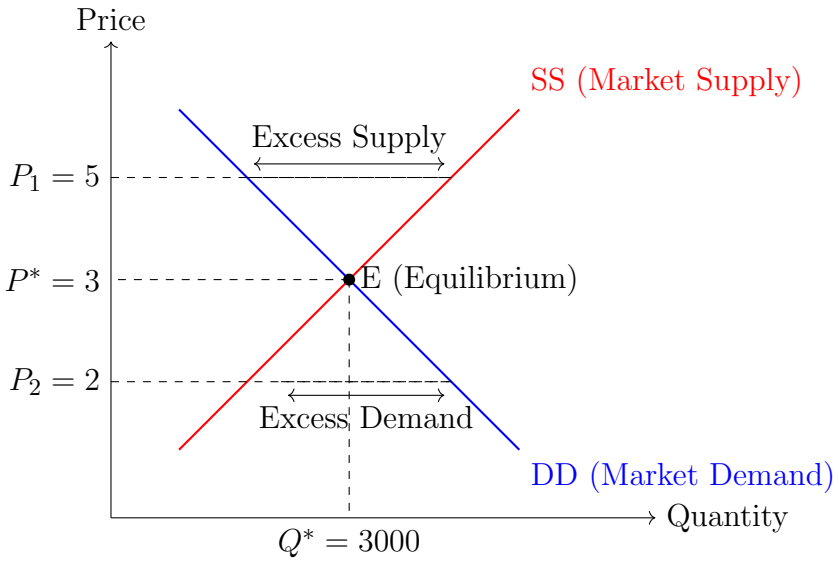
Example with a Schedule:
Let's consider a hypothetical market for wheat. The following schedule shows the quantity demanded and supplied at various prices.

Price per kg ($)	Quantity Demanded (kg)	Quantity Supplied (kg)	Market Situation
5	1,000	5,000	Excess Supply (Surpl
4	2,000	4,000	Excess Supply (Surpl
3	**3,000**	**3,000**	**Equilibrium**
2	4,000	2,000	Excess Demand (Short
1	5,000	1,000	Excess Demand (Short

- At a price of $5, suppliers are willing to sell 5,000 kg, but consumers only want to buy 1,000 kg. This surplus of 4,000 kg will force producers to lower their prices to sell their stock.
- At a price of $1, consumers want to buy 5,000 kg, but suppliers are only willing to sell 1,000 kg. This shortage of 4,000 kg will allow producers to raise their prices.

- At a price of **$3**, the quantity demanded equals the quantity supplied (3,000 kg). This is the stable equilibrium price.

Explanation with a Diagram:



In the diagram, the market demand curve (DD) and market supply curve (SS) intersect at point E. This is the equilibrium point. The price corresponding to this point is P^*, and the quantity is Q^*. At any price above P^* (like P_1), there is excess supply, which pushes the price down. At any price below P^* (like P_2), there is excess demand, which pushes the price up. Thus, the market naturally gravitates towards the equilibrium price P^*.

Quick Tip

Remember that in perfect competition, the **industry** is the price maker, and the **firm** is the price taker. Use both a schedule and a diagram to clearly illustrate how the interaction of demand and supply determines the equilibrium price, and how surpluses and shortages are automatically corrected by market forces.

(OR)

What do understand by Average Propensity to Consume and Marginal Propensity to Consume ? Establish the relationship between these two with the help of an example and diagram.

Answer: The Average Propensity to Consume is the ratio of total consumption expenditure (C) to total disposable income (Y). It represents the proportion of income that is spent on consumption.

$$APC = \frac{\text{Consumption (C)}}{\text{Income (Y)}}$$

Marginal Propensity to Consume (MPC):
The Marginal Propensity to Consume is the ratio of the change in consumption expenditure (ΔC) to the change in disposable income (ΔY). It represents the proportion of an additional unit of income that is consumed.

$$MPC = \frac{\text{Change in Consumption } (\Delta C)}{\text{Change in Income } (\Delta Y)}$$

Relationship between APC and MPC:
The relationship between APC and MPC can be established with the help of a schedule and a diagram. Let's assume a linear consumption function: $C = 100 + 0.75Y$, where 100 is autonomous consumption and 0.75 is the MPC.

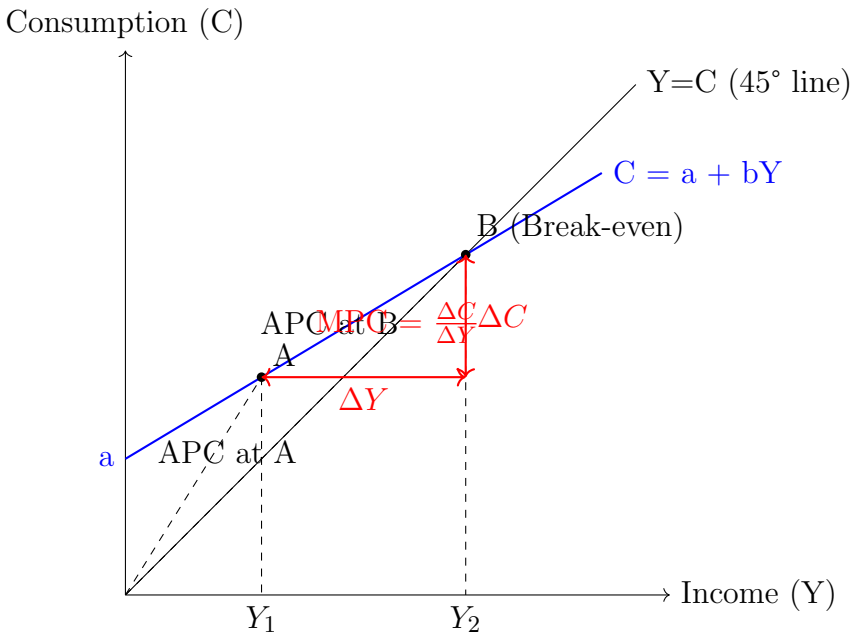
Example with a Schedule:

Income (Y)	**Consumption (C)**	**APC = C/Y**	**MPC = $\Delta C/\Delta Y$**
0	100	-	-
100	175	1.75	0.75
200	250	1.25	0.75
300	325	1.08	0.75
400	400	1.00	0.75
500	475	0.95	0.75

Observations from the schedule:

1. **APC falls as income increases.** At low income levels, consumption can be higher than income (APC >1), financed by savings. As income rises, the proportion of income consumed falls.
2. **MPC is constant** for a linear consumption function (0.75 in this case). This means that for every additional $1 of income, $0.75 is consumed.
3. **APC is always greater than MPC.** This is because APC includes autonomous consumption (consumption at zero income), which is averaged over the entire income. MPC, on the other hand, only relates to the change in income.

Explanation with a Diagram:



- The **MPC** is the slope of the consumption curve (C). For a straight-line consumption curve, the slope is constant.
- The **APC** at any point on the consumption curve is the slope of a line drawn from the origin to that point. In the diagram, the slope of the line OA gives the APC at point A. The slope of the line OB gives the APC at point B.
- As income increases from Y_1 to Y_2, the slope of the line from the origin to the consumption curve decreases (the line becomes flatter). This shows that **APC falls as income rises**.
- Visually, the consumption curve (C) is flatter than the lines drawn from the origin to points on the curve (like OA). This confirms that **APC ¿ MPC**.

Quick Tip

Remember the core difference: APC relates total consumption to total income (C/Y), while MPC relates a change in consumption to a change in income ($\Delta C/\Delta Y$). A schedule is often the clearest way to demonstrate that as income rises, APC falls, and that APC is generally greater than MPC.
