

## Chapter 5: Producer's Behaviour

### Question: 1

Fill in the blank with appropriate alternative given below

\_\_\_\_\_ determines the potential supply.

#### Options

- Stock
- Output
- Supply
- Flow

#### Solution

**Stock** determines the potential supply.

#### Explanation:

Stock is the amount of goods that are available with the seller, for sale, at a given point of time. Thus, we can say that stock determines the potential supply.

### Question: 2

Fill in the blank with appropriate alternative given below

When the price rises, there is \_\_\_\_\_ of supply.

#### Options

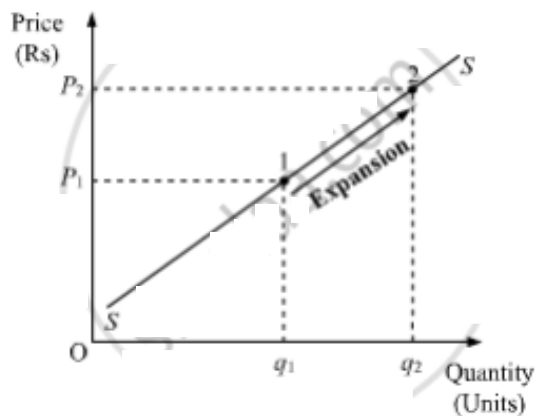
- extension
- contraction
- decrease
- increase

#### Solution

When the price rises, there is **extension** of supply.

#### Explanation:

When supply rises as a result of rise in price, it is known as extension in supply. Graphically, it is represented by an upward movement along the supply curve.



### Question: 3

Fill in the blank with appropriate alternative given below

The vertical supply curve represents \_\_\_\_\_ elasticity.

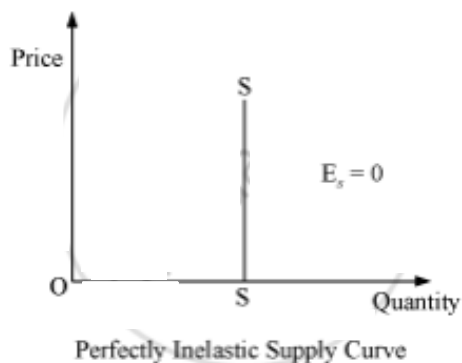
#### Options

- zero
- unit
- constant
- less

The vertical supply curve represents **zero** elasticity.

#### Explanation:

The vertical supply curve represents zero elasticity. That is, the quantity supplied is totally unresponsive to the change in the price of a good.



### Question: 4

Fill in the blank with appropriate alternative given below

An increase in supply means selling a \_\_\_\_\_ amount at the same price.

**Options**

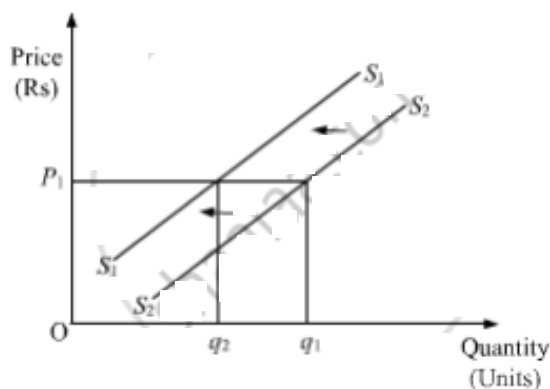
- larger
- smaller
- constant
- less

**Solution**

An increase in supply means selling a **larger** amount at the same price.

**Explanation:**

Increase in supply implies that a larger quantity is supplied at the same price. An increase in supply is caused by factors such as decrease in the factor prices, advancement in technology, favourable government policies, etc. The increase in supply is graphically shown in the following figure by parallel rightward shift of the supply curve.



**Question: 5**

Fill in the blank with appropriate alternative given below

Total Revenue  $\div$  Number of units Sold = \_\_\_\_\_ .

**Options**

- Average Cost
- Average Revenue

- Marginal Cost
- Total Cost

### Solution

Total Revenue ÷ Number of units Sold = **Average Revenue.**

### Explanation:

Average revenue is the revenue earned per unit of output sold. It is equal to total revenue divided by total number of units sold. Algebraically,

Total Revenue/Number of Units Sold = Average Revenue

### Question: 6

Match the following:

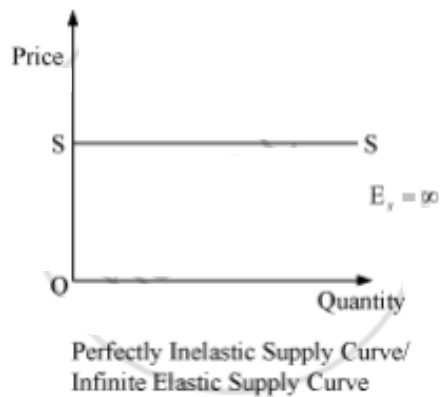
Group A	Group B
1) Perfectly Elastic Supply	a. Vertical supply curve
2) Stock	b. Horizontal supply curve
3) Increase in supply	c. Potential supply
4) Perfectly Inelastic supply	d. Rightward shift in supply curve
5) TC/TQ	e. Leftward shift in
	f. Average cost

### Solution

Group A	Group B
i. Perfectly Elastic Supply	b. Horizontal supply curve
ii. Stock	c. Potential supply
iii. Increase in supply	d. Rightward shift in supply curve
iv. Perfectly Inelastic supply	a. Vertical supply curve
v. TC/TQ	f. Average cost

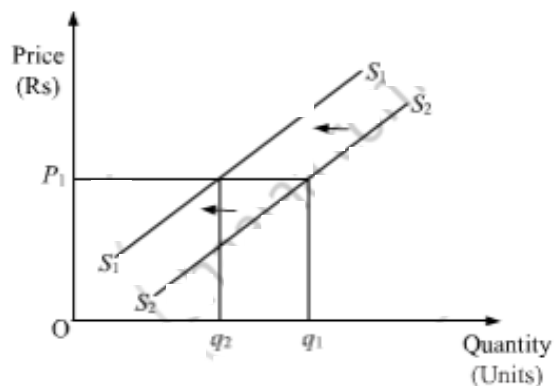
### Explanations:

i. Perfectly elastic supply implies a situation where the quantity supplied is fully (or highly) responsive to the change in the price of the good. Accordingly, a very small change in the price leads to an infinite change in the quantity supplied. A perfectly elastic supply curve originates from the vertical intercept of the price-axis and remains horizontally parallel to the quantity axis.



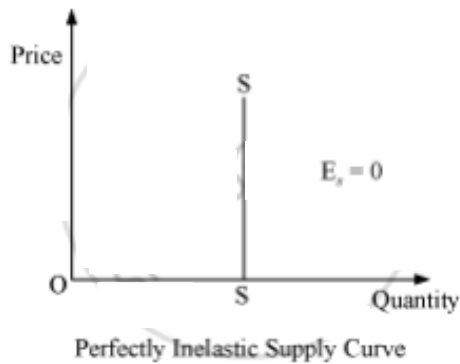
ii. Stock is the amount of goods that are available with the seller for sale at a given point of time. A higher stock implies higher sale can be done and vice-versa. Thus, we can say that stock determines the potential supply.

iii. Increase in supply implies that a larger quantity is supplied at the same price. This increase in supply can be because of favourable changes in factors such as decrease in the factor prices, advancement in technology, favourable government policies etc. An increase in supply is represented by a parallel rightward shift of the supply curve.



iv. When the quantity supplied is totally unresponsive to the change in the price of a good, the supply of the good is said to be perfectly inelastic. In such a situation, the supply curve originates from the horizontal intercept of the quantity-axis and remains vertically parallel to the price axis representing that the supply remains fixed whatever be the price.

The figure given below shows a perfectly inelastic supply curve.



v. Average cost is defined as the per unit cost of producing output. It is derived by dividing total cost by quantity of the output produced. That is,  $TC/TQ$

Average cost =  $TC/TQ$

### Question: 7

State whether the following statement is TRUE and FALSE.

If price falls, the supply curve will shift to left.

### Options

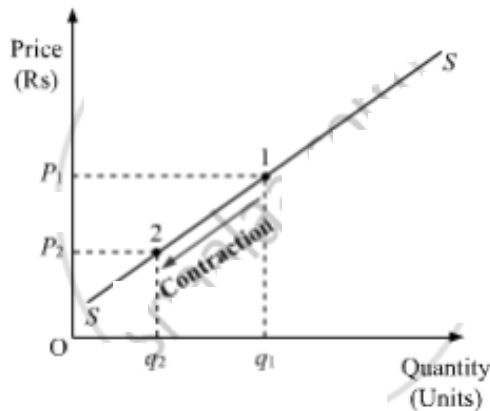
- True
- False

### Solution

If price falls, the supply curve will shift to left. - **False**

### Explanation:

The above statement is incorrect. Other things remaining constant, a fall in price leads to a fall in supply. Such a fall in supply is known as contraction in supply. It is shown by a downward movement along the same supply curve. On the other hand, a parallel leftward shift of the supply curve represents that the supply falls as a result of change in factors other than price.



### Question: 8

State whether the following statement is TRUE and FALSE.

Stock is the source of supply.

#### Options

- True
- False

#### Solution

Stock is the source of supply. - **True**

#### Explanation:

Yes, stock is the source of supply as supply is not possible without stock. Stock is the goods available with the seller. It includes both current stock and old stock. Accordingly, stock is the amount of goods that are available with the seller for sale at a given point of time. In other words, goods for supply is taken from stock. Hence, it is correct to say that stock acts as a source of supply.

### Question: 9

State whether the following statement is TRUE and FALSE.

Supply is indirectly related to price.

#### Options

- True
- False

#### Solution

Supply is indirectly related to price. – **False**

**Explanation:**

This statement is false, as supply of a good is directly related to price. This is because, higher prices means higher profit prospective for the seller. Accordingly, they prefer to increase sales as the price rise and vice-versa. Thus, supply is directly related to price of the commodity.

**Question: 10**

State whether the following statement is TRUE and FALSE.

Geometric Method is also known as Point Method.

**Options**

- True
- False

**Solution**

Geometric Method is also known as Point Method. - **True**

**Explanation:** The above statement is correct. The geometric method is also known as point method. This is because geometric method involves determination of supply at different points on the supply curve. This method does not involve any calculation part. Just by looking at the shape of the supply curve, one can infer the degree of the elasticity of supply.

**Question: 11**

State whether the following statement is TRUE and FALSE.

Total Cost is the total expenditure incurred by a firm.

**Options**

- True
- False

**Solution**

Total Cost is the total expenditure incurred by a firm. - **True**

**Explanation:** Yes. Total cost refers to the total expenditure incurred by a firm to carry out the production of goods and services. It is the aggregate of expenditure incurred on fixed factors as well as variable factors. That is,

$$TC = TFC + TVC$$



**Question: 12**

State whether the following statement is TRUE and FALSE.

Supply for perishable goods is inelastic.

**Options**

- True
- False

**Solution**

Supply for perishable goods is inelastic. - **True**

**Explanation:** It is correct. Perishable goods (such as food grains, milk products etc.) are those goods that are subject to decay or spoilage. Since these goods cannot be stored for a longer time, their supply cannot be changed immediately in response to change in price. As a result, their supply is inelastic.

**Question: 13**

Define or explain the following concept:  
Total Cost

**Solution**

Total cost refers to the sum of all the costs incurred in the production process by a firm, to carry out the production of goods and services. It is the aggregate of expenditure incurred on fixed factors as well as variable factors. Therefore, the total cost can be segmented into the following two parts namely - TFC (Total Fixed Cost) and TVC (Total variable Cost). That is,

$$TC = TFC + TVC$$

**Question: 14**

Define or explain the following concept:  
Stock

**Solution**

Stock is defined as the amount of goods that are available with the seller for sale in the market at a given point of time. It includes previous stock and current stock. Stock forms the source of supply for the firm. In other words, goods for supply is taken from stock

**Question: 15**

Define or explain the following concept:

Output

**Solution**

Output refers to the total quantity of a good being produced in an economy at a given point of time. In other words, it is defined as the sum total of goods produced by all the firms with all the units of inputs - both variable and fixed factors. Algebraically, it is defined as the summation of all the goods and services produced in an economy.

**Question: 16**

Define or explain the following concept:

Elasticity of Supply

**Solution**

Elasticity of supply, or price elasticity of supply, measures the responsiveness of quantity supplied of a commodity to the change in its price. It can be calculated as:

$$Es = \text{Percentage Change in Quantity Supplied} / \text{Percentage Change in Price}$$

**Question: 17**

Define or explain the following concept:

Marginal Cost

**Solution**

Marginal cost is defined as the addition to total cost as a result of producing one more unit of output. It can be calculated by the following formula.  $MC = \text{Change in total cost} / \text{Change in quantity of output}$

$$MC = \text{Change in total cost} / \text{Change in quantity of output}$$

**Question: 18**

Define or explain the following concept:

Average Revenue

**Solution**

Average revenue is the revenue earned per unit of output sold. It is equal to the total revenue divided by the total number of units sold. Algebraically:

$$AR = \text{Total Revenue} / \text{Total Quantity of output Sold}$$

**Question: 19**

Give reason or explain:

Supply is directly related to price.

**Solution**

Other things remaining constant, the quantity supplied of a commodity is positively related to the price of the commodity. Higher prices implies higher profitability for the producers. Thus, at higher prices producers prefer to supply greater quantities of the commodity.

**Question: 20**

Give reason or explain:  
Stock can exceed supply.

**Solution**

Stock is the total amount of goods that are available with the seller for sale in the market at a given point of time. However, the sellers may or may not be willing to sell the entire available amount. Accordingly, the sellers can take only a part of the stock to sell in the market at the given prices. In other words, we can say that while stock is the total amount of goods available for sale, supply is the part of stock which the sellers are actually willing to sell in the market at the given price. Thus, stock can exceed supply.

**Question: 21**

Give reason or explain:  
When price rises, supply expands.

**Solution**

Supply of a good is positively related to the price of a commodity. That is, other things being constant, when the price of a good increases, its quantity supplied also increases. This is because higher prices implies higher profitability for the producers. Consequently, they prefer to increase the sales by increasing supply.

**Question: 22**

Give reason or explain:  
The supply of agricultural commodity is relatively inelastic.

**Solution**

The supply of agricultural commodities is subject to a high degree of uncertainty. For example, whatever be the price, the supply of wheat cannot be increased in the short run in the event of any natural calamity or crop failure. Thus, we can say that the supply of an agricultural commodity is relatively inelastic.

**Question: 23**

Give reason or explain:  
With a slight change in the price, if supply varies in a greater proportion then

supply is said to be relatively elastic.

### **Solution**

When the supply of a good is highly responsive to the changes in its price, the supply of that good is said to be relatively elastic. In other words, with a slight change in the price, if supply varies in a greater proportion, the supply is said to be relatively elastic. In this case, the percentage change in the supply is greater than the percentage change in the price. Hence, the value of price elasticity of supply is greater than one i.e.  $E_s > 1$ .

### **Question: 24**

Distinguish between the following:  
Stock and Supply

### **Solution**

<b>Stock</b>	<b>Supply</b>
It is defined as the amount of goods that are available with the seller for sale in the market at a given point in time.	It refers to different quantities of a commodity actually offered for sale at different prices.
It includes previous stock and current stock.	It includes only current supply.
It is equal to, or more than, supply	It cannot exceed, or be more than, stock.

### **Question: 25**

Distinguish between the following:  
Individual Supply and Market Supply

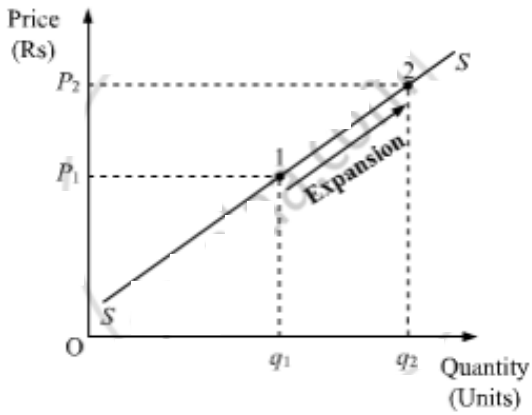
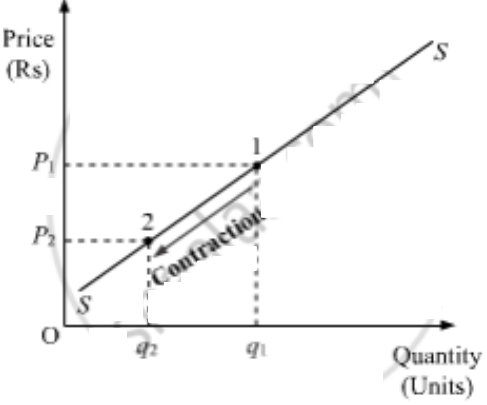
### **Solution**

<b>Individual Supply</b>	<b>Market Supply</b>
It represents the quantities supplied, at different prices, by an individual firm or producer.	It represents the aggregate quantities, supplied at different prices, by all the firms or producers.
The individual supply curve is relatively steeper.	The market supply curve is relatively flatter.

### **Question: 25**

Distinguish between the following:  
Extension and Contraction of Supply

### Solution

Extension (or Expansion) of Supply	Contraction of Supply
It implies that when the price of a good rises, holding other factors constant, the quantity supplied of the good rises.	It implies that when the price of a good falls, holding other factors constant, the quantity supplied of the good falls.
It is represented by an upward movement along the supply curve.	It is represented by a downward movement along the supply curve.
 <p>The graph shows an upward-sloping supply curve labeled 'S'. The vertical axis is labeled 'Price (Rs)' and the horizontal axis is labeled 'Quantity (Units)'. The origin is marked 'O'. Two points are marked on the curve: point 1 at price <math>P_1</math> and quantity <math>q_1</math>, and point 2 at price <math>P_2</math> and quantity <math>q_2</math>. A dashed arrow points from point 1 to point 2, labeled 'Expansion'.</p>	 <p>The graph shows an upward-sloping supply curve labeled 'S'. The vertical axis is labeled 'Price (Rs)' and the horizontal axis is labeled 'Quantity (Units)'. The origin is marked 'O'. Two points are marked on the curve: point 1 at price <math>P_1</math> and quantity <math>q_1</math>, and point 2 at price <math>P_2</math> and quantity <math>q_2</math>. A dashed arrow points from point 1 to point 2, labeled 'Contraction'.</p>

### Question: 26

Distinguish between the following:  
Relatively Elastic Supply and Relatively Inelastic Supply

### Solution

Relatively Elastic Supply	Relatively Inelastic Supply
In this case, change in price leads to a proportionately large change in the quantity supplied.	In this case, change in price leads to a proportionately minor change in the quantity supplied.
It represents a flatter supply curve.	It represents a steeper supply curve.
Here, $E_d > 1$	Here, $E_d < 1$

### Question: 27

Distinguish between the following:  
Average Revenue and Average cost

### Solution

<b>Average Revenue</b>	<b>Average Cost</b>
It is defined as the revenue earned, per unit of output sold.	It is defined as the per unit cost of producing output.
$AR = TR/TQ$	$AC = TC/TQ$

### Question: 28

Write short note on the following:  
Elasticity of supply.

### Solution

Elasticity of supply, or price elasticity of supply, measures the responsiveness of the quantity supplied of a commodity to the change in its price. It assists us in knowing the magnitude of the change in supply due to the change in its price.

Algebraically, it is calculated as:

$$\begin{aligned}
 E_s &= \frac{\text{Percentage Change in Quantity Supplied}}{\text{Percentage Change in Price}} \\
 &= (+) \frac{\frac{\Delta Q}{Q_1} \times 100}{\frac{\Delta P}{P_1} \times 100} \\
 &= (+) \frac{\Delta Q}{Q_1} \times \frac{P_1}{\Delta P} \\
 &= (+) \frac{\Delta Q}{\Delta P} \times \frac{P_1}{Q_1}
 \end{aligned}$$

Where:

$\Delta Q$  represents change in the quantity supplied i.e.  $(Q_2 - Q_1)$

$\Delta P$  represents change in the price i.e.  $(P_2 - P_1)$

$P_1$  represents the initial price

$P_2$  represents the final price

$Q_1$  represents the initial quantity supplied

$Q_2$  represents the final quantity supplied

### Question: 29

Write short note on the following:  
Market supply schedule.

### Solution

It refers to the supply schedule of all the producers or firms in a market. It is a tabular representation of the sum total of quantities supplied by all the firms in the market at different price levels. It represents the supply schedule of a market as a whole.

<b>Market Supply Schedule</b>			
<b>Price</b> (in Rs) A	<b>Quantity Supplied by Firm 1 (f1)</b> (in units) B	<b>Quantity Supplied by Firm 2 (f2)</b> (in units) C	<b>Market Supply</b> <b>M = f1+f2</b> (in units) D=B +C
<b>1</b>	5	10	5 + 10 = 15
<b>2</b>	10	20	10 + 20 = 30
<b>3</b>	15	30	15 + 30 = 45
<b>4</b>	20	40	20 + 40 = 60
<b>5</b>	25	50	25 + 50 = 75
<b>6</b>	30	60	30 + 60 = 90

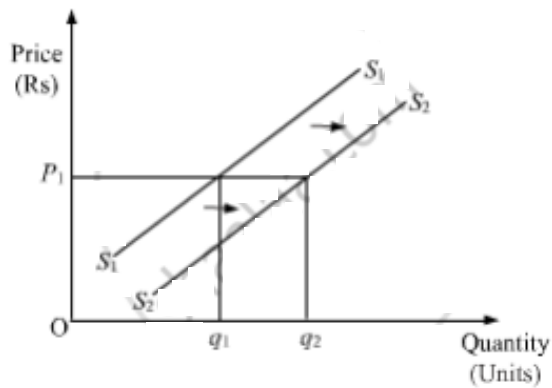
### Question: 30

Write short note on the following:  
Change in supply.

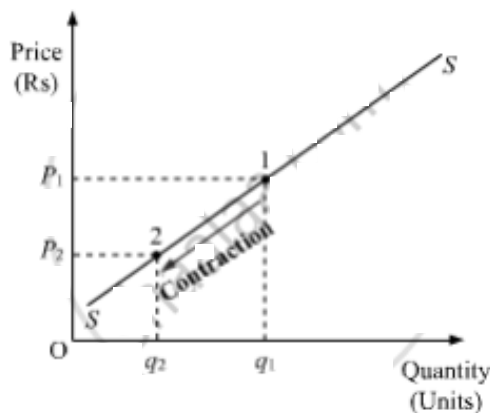
### Solution

Change in supply is caused due to the change in a variables other than the price of a good (i.e. the price of the good remains the same). These other factors can be technological advancements, change in the prices of inputs etc. Change in supply can be of two types namely, increase in supply and decrease in supply.

**Increase in supply:** There is an increase in supply due to the favourable changes in the determinants other than the price of the good. It is represented by a parallel rightward shift of the supply curve.



**Decrease in supply:** Decrease in supply refers to the fall in the supply, due to unfavourable changes in the determinants, other than price of a good (i.e. the price of the good remains same). It is represented by a parallel leftward shift of the supply curve.



### Question: 31

Write short note on the following:  
Percentage method.

### Solution

Under the percentage method, the price elasticity of supply is given by the ratio of percentage change in the quantity supplied and percentage change in the price of a commodity.

Algebraically, it can be expressed as:



$$\begin{aligned}
 E_s &= \frac{\text{Percentage Change in Quantity Supplied}}{\text{percentage Change in Price}} \\
 &= (+) \frac{\frac{\Delta Q}{Q_1} \times 100}{\frac{\Delta P}{P_1} \times 100} \\
 &= (+) \frac{\Delta Q}{Q_1} \times \frac{P_1}{\Delta P} \\
 &= (+) \frac{\Delta Q}{\Delta P} \times \frac{P_1}{Q_1}
 \end{aligned}$$

Where:

$\Delta Q$  represents change in the quantity supplied i.e.  $(Q_2 - Q_1)$

$\Delta P$  represents change in the price i.e.  $(P_2 - P_1)$

$P_1$  represents the initial price

$P_2$  represents the final price

$Q_1$  represents the initial quantity supplied

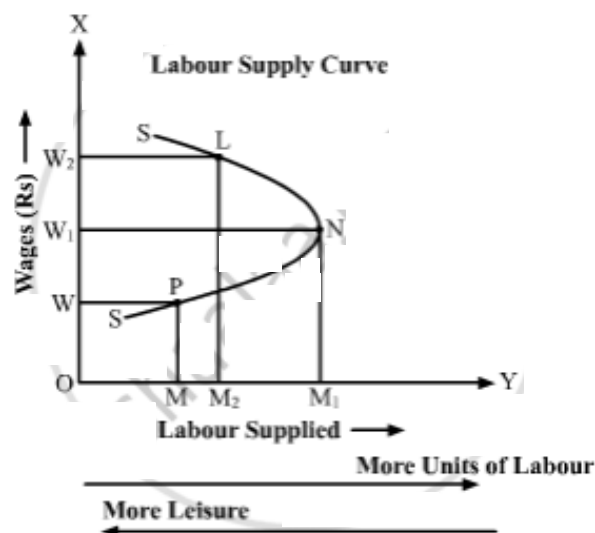
$Q_2$  represents the final quantity supplied

### Question: 32

Write short note on the following:  
Labour supply curve.

### Solution

Labour supply curve represents the labour supplied at different wage rates. It is a backward bending curve. Initially, as the wage rate increases the worker prefers work to leisure. Thereby, the labour supply curve slopes upward. However, as the wage rate continues to rise, the beyond a point, the workers start preferring leisure to work. Accordingly, beyond this the labour supply curve bends backwards.



### Question: 33

Answer the following question:  
What are the assumptions of the law of supply?

### **Solution**

The law of supply is based on the following assumptions:

- i. The price of inputs, or firm's cost of production, remains the same.
- ii. State of technology does not change i.e. there is neither appreciation nor depreciation of the existing technology.
- iii. Price of the related goods (such as substitute goods and complementary goods) remains the same.
- iv. Government policies remain unchanged.
- v. The objective of the firm remains unchanged.
- vi. There is no change in the natural factors and there is no advent of any natural calamity such as an earthquake etc.

### **Question: 34**

Answer the following question:  
What are the determinants of supply?

### **Solution**

The following are the determinants supply of a commodity:

- i. **Price of commodity** - Other things remaining constant, at higher prices, the producers prefer to increase their sales by increasing their supply and vice-versa.
- ii. **Price of related goods** - A rise in the prices of substitute goods will lead to a decrease in the supply of other goods and vice-versa. On the other hand, a rise in the price of complementary goods will lead to an increase in the supply of other goods.
- iii. **Cost of production** - If the price of inputs increases, the cost of production also increases, other things remaining the same. An increase in the cost of production decreases the profits of the supplier and, consequently, lesser quantity is supplied at the given price.
- iv. **State of technology** - Other things remaining the same, if the level of available technology appreciates, the per unit cost of production goes down, which implies higher supply of output and vice-versa.
- v. **Government policy** - Other things remaining constant, if the government policies are more stringent and strict such as high rate of tax, the cost of production will rise. The high cost of production will discourage the producer and thereby, supply will decrease.
- vi. **Goal of firm** - If a particular firm aims at maximising its profit, more units

of output will be supplied at higher price, which will result in a higher profit. On the other hand, if the firm aims at maximisation of sales, more of the output will be sold at the same price to maximise sales.

vii. **Natural factors** - Other things remaining the same, in the event of any natural calamity, such as an earthquake, flood etc., the supply of output will fall.

### Question: 35

Answer the following question:  
What are the exceptions to the law of supply?

### Solution

The following are the exceptions to the law of supply.

- i. **Cash requirement** - If the seller wants cash immediately, he may be willing to supply more, even at a lower price violating the law of supply.
- ii. **Agricultural sector** - The law does not apply to the agricultural products, due to high degree of uncertainty attached to them. For example, whatever be the price, the supply of wheat cannot be increased in the short run, in the event of any natural calamity or crop failure.
- iii. **Expectations about the future** - Quantity supplied by a seller depends on the price expected by the seller to prevail in the market. Thus, if a seller expects that the price will fall in the future, he might increase the quantity supplied at a lower price, thus violating the law of demand.
- iv. **Rare articles**- Goods, like artistic goods (such as paintings) have limited availability. Accordingly, they do not follow the law of supply.

### Question: 36

Answer the following question:  
Explain the concept of Total Cost, Average Cost and Marginal Cost.

### Solution

**Total cost** refers to the total cost of production that is incurred by a firm to carry out the production of goods and services. It is the aggregate of expenditure incurred on fixed factors, as well as variable factors. That is,

$$TC = TFC + TVC$$

**Average cost** is defined as the per unit cost of producing output. It is derived by dividing total cost by the quantity of output produced. That is,

$$\text{Average Cost} = \frac{TC}{Q}$$

**Marginal cost** is defined as the additional cost to the total cost, which is incurred for producing one more unit of output. It can be calculated by either of the following two formulas:

a.  $MC_n = TC_n - TC_{n-1}$

b.  $MC = \text{Change in total cost} / \text{Change in quantity of output}$

**Question: 37**

Do you agree or disagree with the following statement? Give reason.  
There is no difference between stock and supply.

**Solution**

No, the above statement is not right. Stock and supply differ from each other. Stock is defined as the amount of goods that are available with the seller for sale in the market, at a given point of time, on the other hand, supply refers to the amount of goods that the seller is actually willing to offer for sale. In other words, supply is a part of stock that the seller actually offers for sale. Accordingly, the supply is less than or equal to stock.

**Question: 38**

Do you agree or disagree with the following statement? Give reason.  
Price is the only determinant of supply.

**Solution**

No, the above statement is not correct. Besides price, the supply of a commodity is affected by a large number of other factors. The following are some of the factors that determine supply.

1. Price of commodity
2. Price of related goods
3. Technology of production
4. Price of factors of production
5. Government policies
6. Nature of commodity
7. Goals of the firm
8. Expectation of future prices

**Question: 39**

Do you agree or disagree with the following statement? Give reason.  
The backward sloping supply curve shown as inverse relationship between supply of labour and wage rate.

**Solution**

Yes, the above statement is true. The backward bending portion of labour supply curve shows an inverse relationship between the supply of labour and the wage rate. Beyond a particular wage rate, the workers start preferring leisure to work. Accordingly, as the wage rate increases they are willing to supply less labour.

#### **Question: 40**

Answer the following about 200 to 250 words

State and explain the law of supply. What are the assumptions of this law?

#### **Solution**

According to the law of supply, the quantity supplied of a commodity is positively related to the price of the commodity, other things remaining constant. In other words, when the price of a commodity rises (or falls), the quantity supplied will increase (or decrease), other things remaining unchanged.

The law of supply is based on the following assumptions:

- i. The price of inputs, or the firm's cost of production, remains the same.
- ii. State of technology does not change i.e. there is neither appreciation nor depreciation of the existing technology.
- iii. Price of the related goods (such as substitute goods and complementary goods) remains the same.
- iv. Government policies remain unchanged.
- v. There is no change in the transport facilities used by the firm and the transportation cost.
- vi. There is no change in the natural factors and there is no advent of any natural calamity such as an earthquake etc.

#### **Question: 41**

Answer the following about 200 to 250 words

State and explain the law of supply. What are the exceptions to this law?

#### **Solution**

The law of supply states that the quantity supplied of a commodity is positively related to the price of the commodity, other things remaining constant. In other words, when the price of a commodity rises (or falls), the quantity supplied will increase (or decrease), other things remaining unchanged.

Algebraically, the law of supply can be expressed as:

$$Q_x = f(P_x, \bar{P}_y, \bar{T}, \bar{P}_i, \bar{G}, \bar{G}_F, \bar{N}_F)$$

Where:

$Q_x$  = Quantity supplied of commodity 'x'

$P_x$  = Price of commodity x

$P_y$  = Price of related goods (Substitutes or complementary goods)

T = State of technology

$P_i$  = Price of inputs, raw materials or cost of production

G = Government policy

$N_F$  = Natural factors

$G_F$  = Goal of the firm

The following are the exceptions to the law of supply.

i. **Labour supply** - Initially, an increase in the wage rate leads to an increase in labour supply. However, with further increase in the wage rate, labour supply starts falling. This behaviour of labour supply to wage rate leads to a violation of the law of supply.

ii. **Savings** - Some people may choose to have a fixed flow of income. As a result, they may save less, when the rate of interest is high, and save more, when the interest rate is low. This behaviour violates the law of supply.

iii. **Cash requirement** - If the seller wants cash immediately, he may be willing to supply more even at a lower price, violating the law of supply.

iv. **Agricultural sector** - The law does not apply to the agricultural products due to high degree of uncertainty attached to them. For example, whatever be the price, the supply of wheat cannot be increased in the short run, in the event of any natural calamity or crop failure.

v. **Expectations about the future** - Quantity supplied by a seller depends upon the price expected by the seller to prevail in the market. Thus, if a seller expects that the price will fall in the future, he might increase the quantity supplied at a lower price, violating the law of demand.

vi. **Rare articles**- Goods, like artistic goods (such as paintings) have limited availability. Accordingly, they do not follow the law of supply.

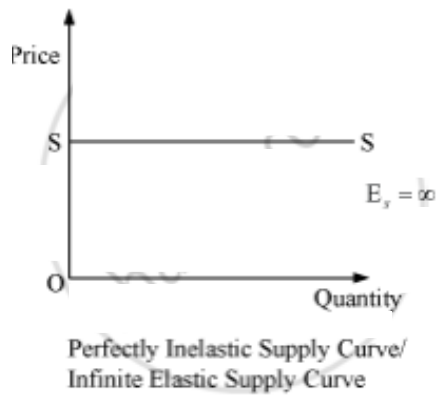
### Question: 42

Answer the following about 200 to 250 words  
Explain various types of Price elasticity of Supply.

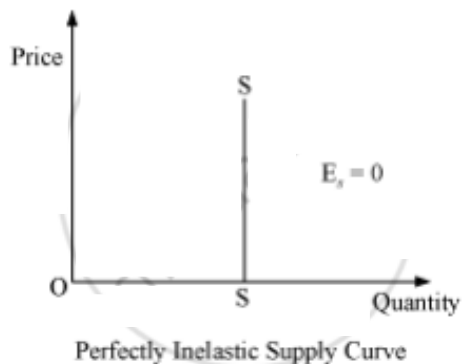
### Solution

The following are the various types of price elasticity of supply.

i. **Perfectly elastic supply** - When the supply of a good is extremely responsive to the changes in the price, the supply of the good is said to be perfectly elastic. In this case, even a small change in the price leads to an infinite change in the supply. Here,  $E_s = \infty$ .



ii. **Perfectly inelastic supply** - When the supply of a good is extremely unresponsive to the changes in the price, the supply of the good is said to be perfectly inelastic. In this case, irrespective of the change in the price, the supply of the good remains same and unchanged. Here,  $E_s = 0$ .

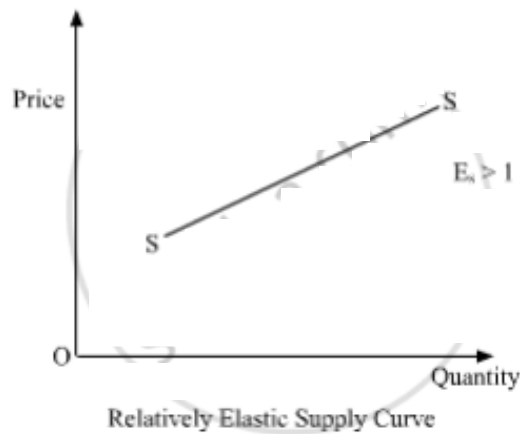


iii. **Unitary elastic** - When the supply of a good is equally responsive to the change in the price, the supply of the good is said to be unitary elastic. In this case, the percentage change in the supply is **equal to** percentage change in the price. Here,  $E_s = 1$ .

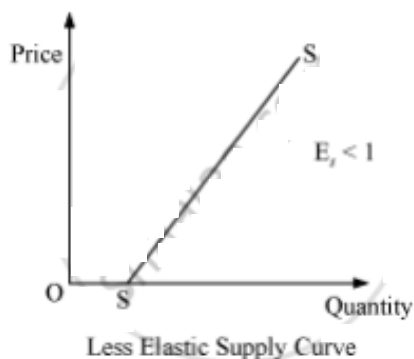


iv. **Relatively elastic supply** - When the supply of a good is highly responsive to the changes in its price, the supply of the good is said to be

relatively elastic. In this case, the percentage change in the supply is **greater** than the percentage change in the price. Here,  $E_s > 1$ .



e. **Relatively inelastic supply** - When the supply of a good is less responsive to the changes in its price, the supply of the good is said to be relatively inelastic. In this case, the percentage change in the supply is less than the percentage change in the price. Here,  $E_s < 1$ .



### Question: 43

Answer the following about 200 to 250 words

Explain various methods to measure Price Elasticity of Supply.

### Solution

The price elasticity of supply can be measured by the following two methods namely:

1. Proportionate Method
2. Geometric Method

### Proportionate or percentage method



According to this method, the price elasticity of supply is given, by the ratio of percentage change in the quantity supplied and percentage change in the price of commodity.

Algebraically, it can be expressed as:

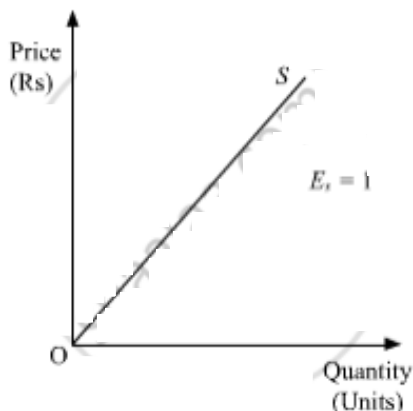
$$E_s = \text{Percentage Change in Quantity Supplied} / \text{Percentage Change in Price}$$

### Geometric method

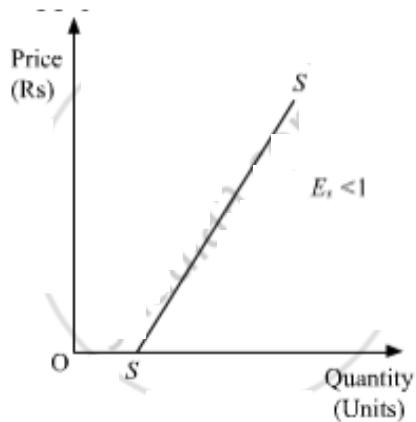
The geometric method is a graphical presentation of the elasticity of the supply. This method does not involve any calculation. Just by looking at the shape of the supply curve, we can infer the degree of the elasticity of the supply. The degree of the price elasticity of supply depends on the slope and origin position of the supply curve.

There are following possible situations.

a. **Unitary Elasticity of Supply ( $E_s = 1$ )** - If the straight line supply curve originates from the **origin**, then irrespective of the angle of inclination of the supply curve, the elasticity of supply will always be equal to one i.e. ( **$E_s = 1$** ). Such a supply curve is called unitary elastic supply curve.



b. **Less Elastic Supply ( $E_s < 1$ )** - If the supply curve originates from the **horizontal intercept** of quantity-axis, then irrespective of the angle of inclination of the supply curve, the elasticity of the supply curve will be less than one i.e. ( **$E_s < 1$** ).



c. **More Elastic Supply ( $E_s > 1$ )**- Unlike the less elastic supply curve, the relatively more elastic supply curve originates from the **vertical intercept** of price-axis. The value of elasticity of supply originating from the vertical intercept is greater than one, i.e. ( **$E_s > 1$** ).

