4. Supply Analysis

Q. 2. Complete the Correlation:
1) Expansion of supply: Price rises :: Contraction of supply: Price falls.
2) Total revenue: PxQ: Average revenue : TR/TQ.
3) Total cost: TFC + TVC Average cost: $\frac{TC}{TQ}$
4) Demand curve: Downwards: D Supply curve: Upward
5) Price constant: Change in supply: Other factors constant: Variation of supply

Q. 3. Give economic terms:
1) Cost incurred on fixed factor.
Ans. Fixed cost

2) Cost incurred per unit of output.
Ans. Average cost

3) Net addition made to total cost of production.
Ans. Marginal cost

4) Revenue per unit of output sold.
Ans. Average Revenue

Q.4. Distinguish between:
1) Stock and Supply

Stock	Supply
1. Meaning Stock refers to the entire quantity of commodity which exists with the seller.	**1. Meaning** Supply refers to the quantity of a commodity offered for sale at a given price and at a point of time.
2. Interrelationship Stock can exceed supply or stock and supply can be same.	**2. Interrelationship** Supply and stock can be same. But supply can never exceed stock.

2) Expansion of Supply and Increase in Supply.

Expansion of supply	Increase in Supply

1. Meaning A rise in supply caused by rise in the price while other factors remaining constant is called expansion (extension) in supply.	**1. Meaning** A rise in supply caused by favourable changes in other factors than price is called increase in supply
2. Equilibrium point. In expansion of supply, the new equilibrium point of price and supply moves upwards from the left to the right on the same supply curve.	**2. Equilibrium point** In increase in supply, the new equilibrium point of price and supply shifts from the left to the right on the new supply curve.

3) Contraction of Supply and Decrease in Supply.

Contraction of Supply	**Decrease in Supply.**
1. Meaning A fall in supply caused by fall in price while other factors remaining constant is called contraction of supply	1. Meaning A fall in supply caused by unfavourable changes in other factors than price is called decrease in supply.
2. Equilibrium point In contraction of supply, the new equilibrium point of price and supply moves downwards from the right to the left on the same supply curve.	2. Equilibrium point In decrease in supply, the new equilibrium point of price and supply shifts from the right to the left on the new supply curve,

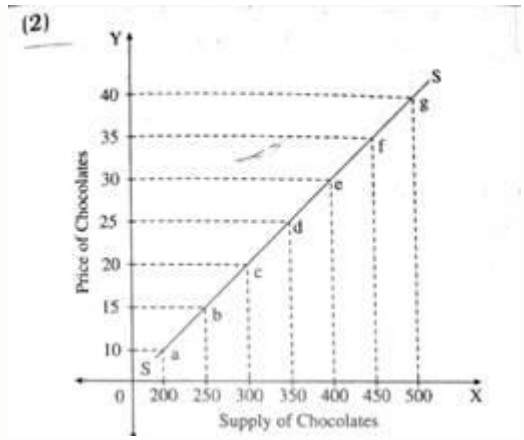
4) Average Revenue and average Cost.

Average Revenue	**Average Cost**
1. Meaning Average revenue refers to revenue per unit of output sold.	**1. Meaning** Average cost refers to the per unit cost of production.
2. Formula Average revenue is calculated with the help of the following formula: $AR = \frac{TR}{TQ}$ Where. AR=Average Revenue, TR=Total Revenue and Tg= Total Quantity of Output.	**2. Formula** Average cost is calculated with the help of the following formula: $AC \frac{TC}{TQ}$ Where, AC=Average Cost. TC=Total Cost and TO =Total Quantity of Output.

Q. 5. Observe the following table and answer the questions:

Price in Rs.	**Quentity supplied in units.**
10	200
15	**250**
20	300

25	350
30	**400**
35	**450**
40	**500**



Explanation of diagram: In the above diagram Y-axis represents the price of the chocolates and X-axis represents supply of chocolates. From the above diagram it can be seen that, as price of chocolates rises from Rs10 to Rs40, the supply of chocolates rises from 200 units to 500 units. Similarly, as price of chocolates falls from Rs 40 to Rs 10, the supply of chocolates falls from 500 units to 200 units. Therefore, supply curve of chocolates slopes upwards from the left to the right.

(3) Relationship between price and quantity supplied: From the above supply schedule and supply curve of chocolates, it can be seen that, At low price of chocolates ie. at Rs 10, the supply of chocolates is also less i.e. 200 units. Similarly at high price of chocolates i.e, at Rs 40, the supply of chocolates is also high i.e. 500 units. Thus, it can be seen that the price of chocolates and quantity supplied of chocolates have direct relation between them.

(B) Observe the market supply schedule of potatoes and answer the following questions:

Price (Rs)		**Firms**		**Market Supply (Kg)**
	A	**b**	**C**	
1	**35**	20	45	100
2	37	30	45	**112**
3	40	**40**	55	135
4	44	50	**60**	154

Explanation of diagram: In the diagram, Y-axis represents the price of the potatoes and X-axis represents market supply of potatoes. From the above diagram it can be seen that, as price of potatoes rises from Rs 1 to Rs 4, the supply of chocolates rises from 100 Kg to 154 Kg. Similarly, as price of potatoes falls from Rs 4 to Rs 1, the market supply of potatoes falls from 154 Kg to 100 Kg. Therefore, market supply curve of potatoes slopes upwards from the left to the right.

Q.6 Answer the following:

(1) Explain the concept of total cost and total revenue.

Ans. [A] **Total Cost: (1) Meaning:** Total cost is the total expenditure incurred by a firm on the factors of production required for the production of goods and services. Total cost is the sum of total fixed cost and total variable cost at various levels of output.

(2) Formula: Total cost is calculated as follows:
TC=TFC + TVC Where, TC = Total Cost, TFC = Total Fixed Cost and TVC = Total Variable Cost.

(**a) Total Fixed Cost (TFC):** Total fixed costs are those expenses of production which are incurred on fixed factors such as land, machinery, etc.

(b) Total Variable Cost (TVC): Total variable costs are those expenses of production which are incurred on variable factors such as labour, raw material, power, fuel, etc.

(3) Example: If a particular manufacturer has incurred a total fixed cost of 50,000 and a total variable cost of 40,000 for manufacturing 20 fans, the total cost can be calculated as follows: TC = TFC TVC
∴TC=50,000+40,000
∴TC =90,000
∴Total Cost= 90,000. (1)

[B] Total Revenue: Meaning: Total revenue is the total sales proceeds of a firm by selling a commodity at a given price. It is the total income of a firm.

(2) Formula: Total revenue is calculated as follows: Total Revenue Price x Quantity

(3) Example: If a particular manufacturer sells fans by charging 6000 per unit, the total revenue can be calculated as follows:
TR= PxQ
∴TR=6,000 x 20
∴TR = 1,20,000
∴Total Revenue = 1,20,000.

2) Explain the determinant of supply.

Ans.The determinants of supply are as follows: **(1) Price:** Price Is the most important factor influencing the supply of a commodity. Price and supply are directly related to each other, i.e. more Is supplied at a higher price and less is supplied at a lower price.

(2) State of technology: Technological improvements reduce the cost of production, which lead to an increase in production and supply. On the other hand, traditional and outdated technology reduced the supply.

(3) Cost of Production: Cost of production and supply have inverse relation. For example, if the price of factors of production increases, the cost of production also increases. This in turn decreases the profit margin of supplier and this in turn decreases the supply. On the other hand, fall in the cost of production increases the supply.

(4) Infrastructural facilities: Infrastructure in the form of transport, communication, power, etc. influences the production process as well as supply. Inadequate infrastructural facilities decrease the supply and vice versa.

(5) Government policy: Government policies on taxation, subsidies, industrial policies, etc. may encourage or discourage production and supply depending upon government policy measures. For example, government subsidies tend to increase the supply.

(6) Natural conditions: The supply of agricultural products depends on the natural conditions. For example, a good monsoon and favourable climatic condition will produce a good harvest, so the supply of agricultural products will increase. On the other hand, unfavourable climatic conditions will lead to poor harvest and thus to a decrease in supply of agricultural goods.

(7) Future expectations about price: If the prices are expected to rise in the near future, the producer may withhold the stock. This will reduce the supply though the current prices are high. On the other hand, if the prices are expected to fall in the near future, the producer sells more though current prices are low.

(8) Other factors: Other factors like nature of the market, relative prices of other goods, export and imports, industrial relations, availability of factors of production, etc. determine the supply of various goods. For example, availability of factors of production increases the supply. On the other hand, shortage of factors of production decreases the supply.

Q.7 Answer in detail:

(1) State and explain the Law of Supply.

Ans. The Law of Supply can be stated and explained with the help of the following points:
(1) Law of Supply: The Law of Supply was propounded by Dr. Alfred Marshall in his

famous book, 'Principles of Economics'. The Law of Supply explains the direct relationship between the price and the supply.

(2) Statement of Law: "Other things being constant, the higher the price of a commodity, greater is the quantity supplied and lower the price of a commodity, smaller is the quantity supplied."

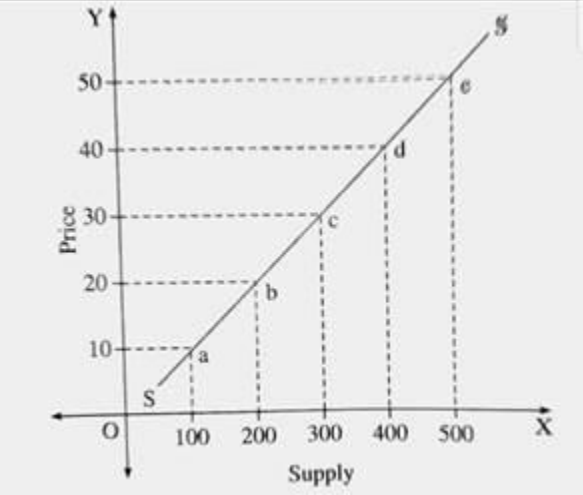
(3) Symbolic Representation: The Law of Supply can be expressed symbolically as follows: a Sx = f (Px)
Where. S stands for supply of a commodity x,f stands for function of and Px stands for the price of a commodity x.

(4) Individual Supply Schedule: The Law of Supply can be explained with the help of the following individual supply schedule:

Price (Rs)	Quantity Supplied (in units)
10	100
20	200
30	300
40	400
50	500

(5) Explanation of Individual Supply Schedule: From the above individual supply schedule it can be observed that at a lesser price (Rs10) less units of commodity x are supplied (100 units). Similarly, at a higher price (Rs50) more units of commodity x are supplied (500 units). Thus, there exists a direct relationship between the price and the quantity supplied

(6) Individual Supply Curve: The law of Supply can be explained with the help of the following diagram of the individual supply curve:



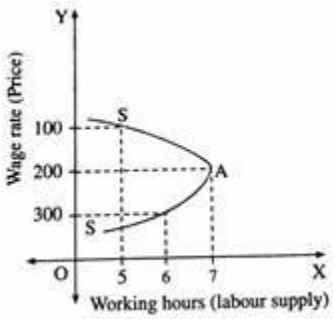
(7) Explanation of Individual Supply Curve: In the above diagram, Y-axis represents

price of a commodity x and X-axis represents supply of a commodity x. From the above diagram it can be seen that the supply curve, i.s. S slopes upwards from the left to the right. The supply curve has positive slope as there is direct relationship between the price and the supply.

[B] Exceptions to Law of Supply:
The exceptions to the Law of Supply are as follows:

(1) Labour supply : In the initial stages, labour supply increases as wage rate increases. However, at a later stage, workers would prefer leisure to work. They prefer to earn same amount of income by working for less hours.
Therefore, in the initial stage, the labour supply curve slopes upward from the left to the right. However, in the later stage, the labour supply curve bends backward. This is explained in the following schedule and diagram :

Wage Rate (₹) (Per Hour)	Hours of Work (Per Day)
100	5
200	7
300	6



From the schedule and diagram it can be seen that in the initial stages as wage rate rises from * 100 to 200, the supply of labour also rises from 5 hours to 7 hours. However, when the wage rate rises from 200 to 300, the supply of labours do not rise further; rather it is reduced from 7 hours to 6 hours. Thus, after the wage level 200, the supply curve slopes backwards from the point A towards Y-axis indicating that at higher prices fewer labour hours are supplied.

(2) Agricultural goods : Agricultural goods
require suitable climatic conditions and sufficient period of growth. Therefore, the supply of agricultural goods cannot be increased overnight though their prices rise. Similarly, due to favourable conditions, the supply of agricultural goods may rise even at their constant prices. Therefore, in case of agricultural goods the law is inapplicable. Therefore agricultural goods are exception to the Law of Supply

(3) Urgent need for cash : If a seller needs cash urgently he is forced to sell more

even at less prices/below market prices. Therefore, the sale of goods influenced by the need for cash is considered as an exception to the Law of Supply.

(4) Perishable goods : Perishable goods like vegetables, flowers, eggs, etc. cannot be stored for a long period of time. Seller has to bear a huge loss, if perishable goods do not get sold. Therefore, in case of perishable goods, the supplier would offer to sell more quantities at lower prices to avoid losses. Therefore, the sale of perishable goods at low price is considered as an exception to the Law of Supply. supply curve slopes backwards from the point A towards Y-axis indicating that at higher prices fewer labour hours are supplied.

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