



ECONOMICS

BOOKS - RADHA BHUGANA ECONOMICS (HINGLISH)

THEORY OF SUPPLY : LAW OF SUPPLY AND ELASTICITY OF SUPPLY

Example

1. When price of a commodity falls from Rs. 12 per unit to Rs. 9 per unit, the producer supplies 75% less output. Calculate price elasticity of supply.



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2. When price of a good rises from Rs. 10 to Rs. 12 per unit, the producer supplies 10 % more. Calculate price elasticity of supply.



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3. When price of commodity is Rs.4/unit, a producer supplies 8 units/day. If price rises to Rs.5/unit, he is willing to supply 10 units/day. Calculate price elasticity of supply.



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4. If market price of a commodity is Rs.5/unit, a seller is willing to sell 600 units of the commodity. When the price rises to Rs.6/unit he is willing to sell 800 units of the commodity. Calculate price elasticity of supply.



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5. If price of a commodity falls from Rs.50/unit, supply also falls from 400 units to 200 units. Calculate price elasticity of supply.



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6. Complete the following market supply schedule and calculate $P.e_s$ of firm, A & B when price rises from Rs. 2/unit to Rs. 3/unit.

Price/Unit	1	2	3	4	5
Supply A	--	37	40	44	48
Supply B	20	30	--	50	60
Supply C	45	50	55	--	65
Market Supply	100	--	135	154	--

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7. When price of a good rises from Rs. 10 per unit, producer supplies 40 units more. $P.e_s$ is 2. What is the quantity supplied before the price change ? Calculate.

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8. A seller sells 80 units when price is Rs.4/unit. $P. e_S$ is 2. How much quantity will the seller supply when price rises to Rs.5/unit ?



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9. Price elasticity of supply is 2.5. At a price of Rs.5/unit its quantity supplied is 300 units. Calculate the quantity supplied at a price of Rs.4/unit.



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10. $P. e_S$ is 3. A seller supplies 20 units of a commodity at Rs.8/unit. How much quantity will he supply when

price rises by Rs.2/unit ?



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11. Supply of commodity is 1200 units at a price of Rs.12/unit. If the supply of commodity increases to 1600 units, what will be the new price of commodity if $P. e_s = 2$?



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12. The price elasticity of supply of good X is half the price elasticity of supply of good Y. A 10% rise in the price of good Y results in a rise in its supply from 400

units to 520 units. Calculate the percentage change in quantity supplied of good X when its price falls from Rs.10 to Rs.8 per unit.

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Practical Applications

1. There are 3 firms P, Q and R in a market. Prepare the supply schedule for a market.

Price (₹)	Firm P (Units)	Firm Q (Units)	Firm R (Units)	Market supply (Units)
10	2	4	10	-
20	4	6	12	-
30	6	8	14	-
40	8	10	16	-
50	10	12	18	-

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2. There are three identical firms in a market. The following table shows the supply schedule of firm 1.

Compute market supply schedule.

Price Rs.	0	1	2	3	4	5	6	7	8
Supply (Units) (SS_1)	0	0	2	4	6	8	10	12	14

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3. If price of a commodity falls from Rs.60/unit to Rs.58/unit, its supply falls from 400 units to 300 units. Find out elasticity of supply.

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4. Due to decrease in price from Rs. 15/unit to Rs.10/unit, supply of a commodity falls from 100 units to 50 units. Find price elasticity of supply.



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5. At Rs.12/unit, quantity supplied of a commodity is 500 units. When its price rises to Rs.15/unit, its quantity supplied rises to 650 units. Calculate price elasticity of supply. Is supply elastic ?



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6. The price elasticity of supply of commodities X and Y is equal. The price of X falls from Rs.10 to Rs.8 per unit and supply falls by 16 percent. The price of Y rises by 10%. Calculate the percentage increase in the supply.



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7. The ratio of elasticity of supply of commodities A and B is 1:1.5. 20 per cent fall in price of A results in a 40 per cent fall in its supply. Calculate the percentage increase in supply of B if its price rises from Rs.10 per unit of Rs.11 per unit.



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8. A firm supplies 10 units of a good at a price of Rs.5 per unit, $P. e_s$ is 1.25, what quantity will the firm supply at a price of Rs.7 per unit.



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Mcq

1. The factor causing extension in supply of a good is

- A. increase in number of firms
- B. decrease in tax rate
- C. improvement in technology

D. increase in price of the good.

Answer: D



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2. Coefficient of perfectly inelastic supply is

A. infinity

B. greater than one

C. zero

D. less than one.

Answer: C



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3. An increase in price of inputs will shift the supply curve

- A. to its left
- B. to its right
- C. no change
- D. none of these.

Answer: A



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4. In the short period the supply of a good is

- A. perfectly elastic
- B. perfectly inelastic
- C. unitary elastic
- D. less elastic.

Answer: D



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5. In case of unitary elastic supply, the supply curve starts from

A. the origin

B. + X – axis

C. – X – axis

D. none of these.

Answer: A



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6. The following factor will cause increase in supply of a good

A. rise in price of good

B. increase in excise tax rate

C. improvement in technology

D. all of these.

Answer: C



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7. A seller rises supply of a good from 100 units to 200 units at a price of Rs.10 per unit. What will be $P.e_S$?

A. infinity

B. zero

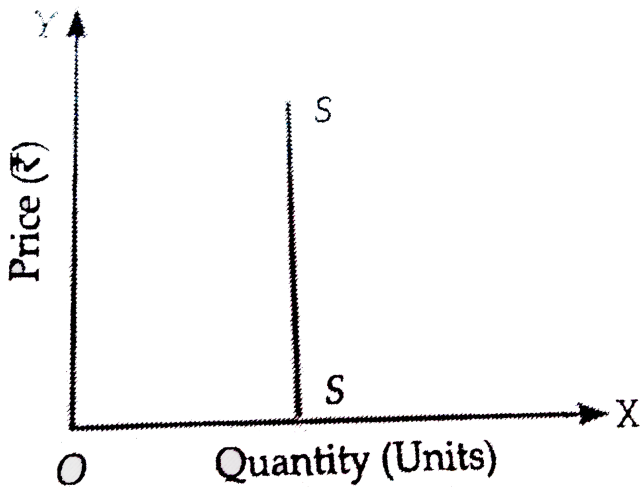
C. one

D. less than one.

Answer: A

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8. What is the degree of elasticity of supply in the diagram ?



A. zero

B. one

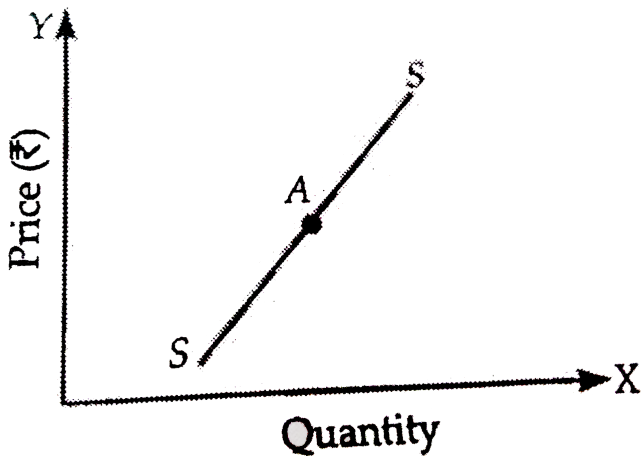
C. infinity

D. none of these.

Answer: A

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9. $P. e_s$ at point A in the adjacent diagram:



A. 1

B. zero

C. > 1

D. < 1

Answer: D



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10. In case of _____ in supply, supply of the good rises at the same price :

A. decrease

B. increase

C. extension

D. contraction

Answer: B



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11. The market supply of a good is determined by

A. excise tax rate

B. state of technology

C. price of inputs

D. all of these.

Answer: D



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12. If quantity supplied of a good increases by 80 % due to a 40 % increase in its price, then P, e_s is :

A. (+)2

B. (-)2

C. (+)0.5

D. (-)0.5

Answer: A



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Objective Type Questions

1. Define individual supply.



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2. Define market supply curve.



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3. What is supply function?



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4. What is supply schedule?

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5. Define supply curve.

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6. When does the movement along the supply curve occur?

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7. When does the shift in supply curve occur?



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8. What do you mean by extension in supply?



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9. What do you mean by contraction in supply ?



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10. What is increase in supply?



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11. What is decrease in supply?



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Conceptual Questions

1. Define stock.



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2. What are determinants of supply ?



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3. Define law of supply.



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4. What are the reasons for shift in supply curve?



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5. Define price elasticity of supply.



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6. What is the method for measuring price elasticity of supply?



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7. What are the degrees of price elasticity of supply?



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8. What are the factors affecting elasticity of supply?



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Hots

1. What should be the starting point of straight line upward sloping supply curve, when

(i) $E_S = 1$

(ii) $E_S > 1$

(iii) $E_S < 1$

Draw the supply curves showing : (i) $E_S = 1$ (ii) $E_S > 1$ (iii) $E_S < 1$



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2. The supply curves passing through the origin are unitary elastic. Defect or refute.



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3. Supply curve is the rising portion of marginal cost curve over and above the minimum of Average Variable cost curve'. Do you agree ? Support your answer with valid reason.



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4. What is meant by change in supply and change in quantity supplied?



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5. If there are two supply curves which intersect each other, which supply curve has greater elasticity of supply. Explain.



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6. Explain the behaviour of firm's supply in the context of time horizon.

Or

How does time period affect the elasticity of supply of a commodity?



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Value Based Questions

1. Withdrawal of subsidy on LPG has increased its price. The production of LPG cannot be increased due to scarcity of resources. Suggest how in two ways the problems of scarcity of LPG can be solved?



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2. There is shortage of basic essentials like pulses, oil etc. What will be its impact on prices ? What should be done by the government to check this?



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3. (a) What is the effect of technological advancement on supply curve?

(b) How can a developing country prepare itself to achieve economic progress ?



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1. How does technological progress affect the supply curve of a firm?



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2. How does an increase in the price of an input affect the supply curve of a firm ?



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3. How does an increase in number of firms in a market affect the market supply curve?



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4. What does price elasticity of supply mean ? How do we measure it ?

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5. Consider a market with two firms. The following table shows schedules of the two firms. Compute market supply schedule.

Price (Rs.)	0	1	2	3	4	5	6
SS_1	0	0	0	1	2	3	4
SS_2	0	0	0	1	2	3	4

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6. Compute market supply schedule. In the following table, columns labelled SS_1 and SS_2 give the supply schedules of firm 1 and 2 respectively

Price (₹)	0	1	2	3	4	5	6	7	8
SS_1 (kg)	0	0	0	1	2	3	4	5	6
SS_2 (kg)	0	0	0	0	0.5	1	1.5	2	2.5

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7. There are three identical firms in a market. The following table shows the supply schedule of firm 1.

Compute market supply schedule.

Price Rs.	0	1	2	3	4	5	6	7	8
Supply (Units) (SS_1)	0	0	2	4	6	8	10	12	14

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8. A firm earns a revenue of Rs.50 at the market price of a good at Rs.10. The market price increases to Rs.15 and the firm now earns a revenue of Rs.150. What is price elasticity of the firm supply curve?



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9. The market price changes from Rs.5 to Rs.20. As a result, the quantity supplied by a firm increases by 15 units. The price elasticity of the firm's supply curve is 0.5. Find the initial and final quantity sold of the firm.



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10. At the market price of Rs.10, a firm supplied 4 units of output. The market price increases to Rs.30. The price elasticity of supply is 1.25. What quantity will the firm supply at the new price?



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Exercises Vsatq

1. Define supply.



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2. Define market supply.



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3. How is the market supply schedule determined from the supply schedules of individual firms?



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4. State the law of supply.



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5. What cause a movement along a supply curve of a good?



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6. What cause a downward movement along a supply curve?



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7. What cause an upward movement along a supply curve of a commodity?



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8. In which situation does the supply rise, even at the same price?



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9. What happens to the supply curve in case of an increase in supply?



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10. Define price elasticity of supply.



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11. If the quantity supplied does not change at all as price changes, what will be elasticity of supply?



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12. What is the price elasticity of supply of a commodity whose straight line supply curve passes through the origin forming an angle of 75° ?



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13. When is the supply of a commodity called 'elastic'?



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14. Price elasticity of supply of a good is 0.8. Is the supply 'elastic' or 'inelastic', and why?



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15. What is meant by increase in supply?



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16. Give the formula to calculate price elasticity of supply.



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17. What is decrease in supply?



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18. Give one reason for an increase in supply of a commodity.



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19. When does 'shift' in supply curve take place?



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Exercises Satq

1. How is the supply of a commodity affected by changes in the prices of other commodities?



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2. Explain any two dterminants of supply of a commodity.



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3. Define market supply of a good. Give three causes of a righward shift of supply curve.



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4. Distinguish between change in supply and change in quantity supplied of a commodity.



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5. What is meant by 'change in supply' ? State three fractors that can cause a change in supply.



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6. Explain the meaning of 'increase in supply' and 'increase in quantity supplied' with the help of a schedule.



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7. State three causes of increase in supply.



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8. Explain the effect of rise in the input prices on the supply of a good.

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9. What will be the price elasticity of supply at a point on a positively sloped, straight line supply curve?

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10. State the percentage method of measuring price elasticity of supply (in case of straight line supply curve).

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11. State any three causes of a rightward shift of supply curve.



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12. Explain the effect of technical progress on the supply of a good.

Or

"Improvement in technology shifts the supply curve towards left". Defend or refute.



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13. Explain the effect of the following on the supply of a commodity:

(a) Fall in the prices of factor inputs

(b) Rise in the prices of other commodities.



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14. Define 'market-supply'. What is the effect on the supply of a good when Govt. imposes a tax on the production of that good ? Explain



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15. What is a supply schedule ? What is the effect on the supply of a good when Govt. gives a subsidy on the production of that good ? Explain.



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16. When the price of a good rises from Rs.20 per unit to Rs.30 per unit, the revenue of a firm producing this good rises from Rs.100 to Rs.300. Calculate $P. e_s$.



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17. How does change in per unit tax influence that supply of a good by a firm ? Explain.

Or

How does subsidy influence the supply of a good by a firm ? Explain.



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18. Explain how technological progress is a determinant of supply of a good by a firm?

Or

Explain how input prices are a determinant of supply of a good by a firm?



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19. Explain the significance of "minus sign" attached to the measure of price elasticity of demand in case of a normal good, as compared to the "plus sign" attached to the measure of price elasticity of supply.



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20. Giving reasons state whether the following statement is true or false. "The supply curve of a good shifts to the right when prices of other goods rise".



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21. Explain any four factors that affect the supply of a good.



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22. Define market supply. Explain the factor 'input prices' that can cause a change in supply.



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23. Explain how the following factors affect the supply of the commodity (any 2)

(a) Price of factor inputs

(b) State of Technology

(c) Government taxation policy



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Long Answer Type Questions

1. State and explain the law of supply with the help of a hypothetical schedule and diagram.



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2. Define price elasticity of supply. What are the two main methods for measuring elasticity of supply?

Discuss any one method.



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3. Discuss in brief the various kinds of price elasticity of supply.



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4. Explain the factors which influence elasticity of supply.



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5. Explain the difference between movement and shift in the supply curve. Mention two reasons for shift in supply curve and the reason for movement along the supply curve.



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6. Explain the concept of supply schedule and supply curve with the help of a hypothetical schedule and diagram.



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7. Give three causes of a rightward shift of a supply curve.

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8. Define price elasticity of supply. How is it measured ?

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9. Price of a good falls from Rs.15 to Rs.10 and the supply decreases from 100 unit to 50 units. Calculate E_S .

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10. A producer sells 40 units at Rs.2 per unit. If price of the good rises to Rs.4, he sells 80 units of the good.

Calculate $P. e_s$



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11. Explain any two or three determinants of supply of a good.



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12. Examine the effect of (a) fall in the own price of good X and (b) rise in tax rate on good X on the supply curve. Use diagrams.

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Unsolved Numerical

1. Price of a good rises from Rs.10 to Rs.12 per unit, its supply rises by 40%. Calculate price elasticity of supply.

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2. If price of a commodity falls from Rs.60 to Rs.58 per unit, its supply falls from 300 to 200 units. Find out its elasticity of supply.



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3. The coefficient of price elasticity of supply of a commodity is 3. A seller supplies 20 units at Rs.8 per unit. How much quantity will the seller supply when price rises by Rs.2 per unit?



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4. The price elasticity of supply is 2.5. At a price of Rs.5 per unit, its quantity supplied is 300 units. Calculate quantity supplied at a price of Rs.4 per unit.



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5. When the price of a commodity falls from Rs.10 to Rs.9 per unit, its quantity falls by 30 % . Calculate price elasticity of supply.



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6. A producer supplies 200 units of a good at Rs.10 per unit. Price elasticity of supply is 2. How many units will the producer supply at Rs.11?



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7. At a price of Rs.5 per unit of a commodity, total revenue is Rs.800. When its price rises by 20%, total revenue increases by Rs.400. Calculate its price elasticity of supply.



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8. Total revenue is Rs.400 when price of a commodity is Rs.2 per unit. When its price rises to Rs.3 per unit, the quantity supplied is 300 units. Calculate price elasticity of supply.



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9. The price elasticity of supply of a commodity is 2. When its price falls from Rs.20 to Rs.16 per unit, its quantity supplied falls by 500 units. Calculate the quantity supplied at reduced price.



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10. The price elasticity of supply of a commodity Y is half the price elasticity of supply of a commodity X. 16% rise in price of X results in a 40% rise in its supply. If price of Y falls by 8%, calculate fall in its supply.



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Let Us Recapitulate

1. Commodity 'X' when its technology improves.



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2. Agrecultural production if price of inputs rises.



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3. Commodity 'Y' when its price rises.



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4. T.V. sets if excise tax is increased.



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5. Commodity 'X' if no. of firms producing it, increases.





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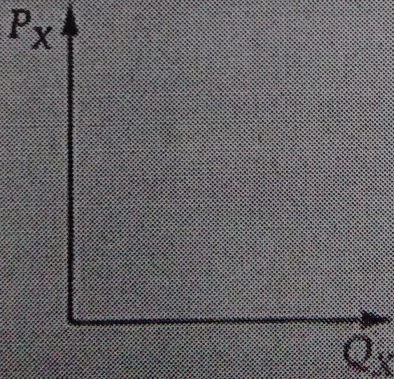
6. Tea when price of coffee increases.



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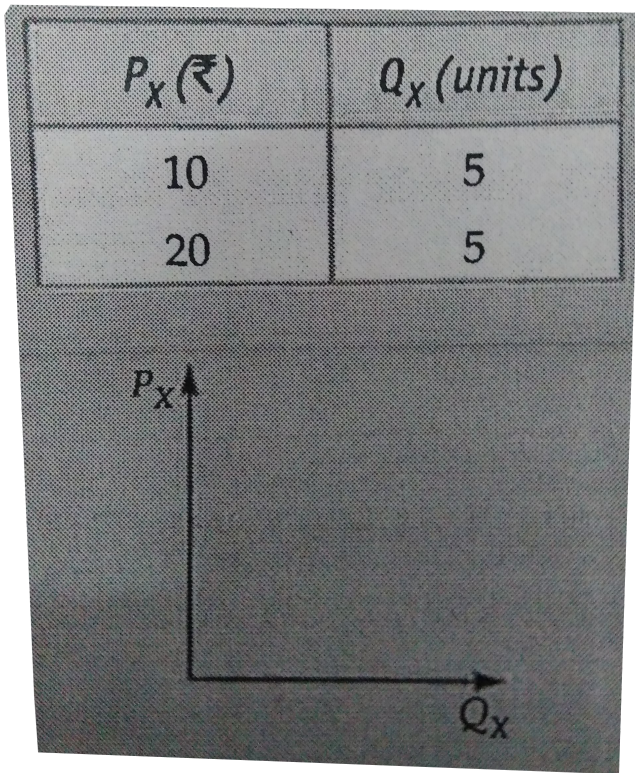
7. Draw the following schedules and mention the coefficient of price elasticity of supply

P_x (₹)	Q_x (units)
10	5
10	10



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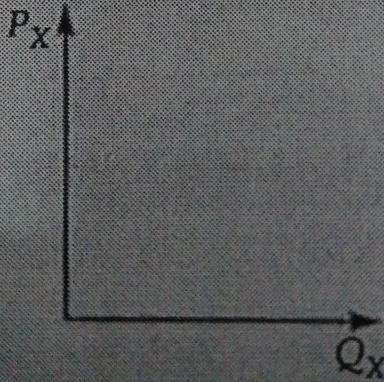
8. Draw the following schedules and mention the coefficient of price elasticity of supply



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9. Draw the following schedules and mention the coefficient of price elasticity of supply

P_x (₹)	Q_x (units)
10	5
20	5



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