

Question 1. What are the characteristics of a perfectly competitive market?

Answer The main characteristics of a perfectly competitive market are as follows

- (i) Large number of buyers and sellers.
- (ii) Homogeneous goods
- (iii) Free entry and exit of firms.
- (iv) Buyers and sellers have perfect knowledge of market.
- (v) Perfect mobility of factors of production.
- (vi) The transportation costs assumed zero.
- (vii) There is no selling costs.

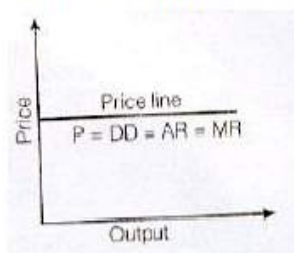
Question 2. How are the total revenue of a firm, market price and the quantity sold by the firm related to each other?

Answer Total Revenue is the sum total of revenue receipts from the sale of a given quantity of a commodity. It means total revenue is obtained by multiplying the market price (sale price) of commodity and quantity of the commodity sold.

Total Revenue = Market price x Quantity sold

Question 3. What is the 'price line'?

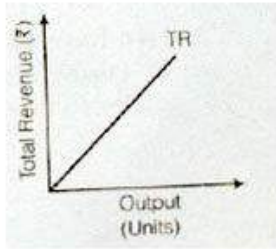
Answer It is a horizontal line that represents the market price for a perfectly competitive firm and output Under monopoly of monopolistic & competition, firm price line slope downward For a perfectly competitive firm, price line and demand curve are same



Question 4. Why is the total revenue curve of a price-taking firm an upward sloping straight line? Why does the curve pass through the origin?

Answer For a price taking firm, AR is constant. In case AR is constant, MR is also constant. As a result TR increases in the same proportion as price is constant. So, TR

curve is upward sloping straight line. It passes from the origin because TR is zero at zero level of output.



Question 5. What is the relation between market price and average revenue of a price-taking firm?

Answer For a price taking firm, market price is equal to average revenue.

We know, $AR = TR/Q$

$TR = P \times Q$, $AR = P \times Q/Q$

$AR = P$

Here AR = Average Revenue

TR = Total Revenue

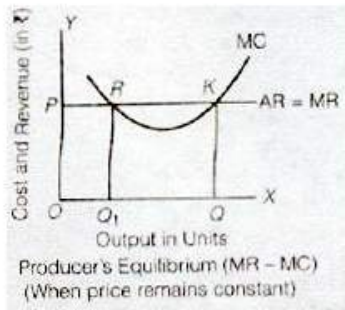
Question 6. What is relation between market price and marginal revenue of a price-taking firm?

Answer For a price taking firm, market price is equal to marginal revenue because firm can sell more quantity of commodity at the same price. As a result that revenue from every additional unit (MR) is equal to price or average revenue AR.

Question 7. What conditions must hold if a profit maximising firm produces positive output in a competitive market?

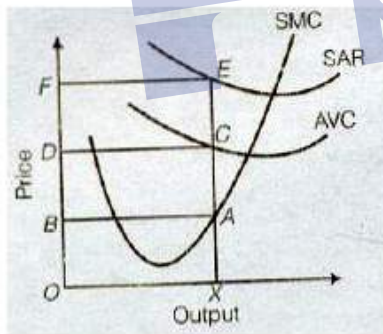
Answer When price remains constant firms can sell any quantity of output at the price fixed by the market. AR remains same at all levels of output and also revenue

from every additional unit (MR) is equal to AR. It means, AR curve is same as MR curve. Producer aims to produce that level of output at which MC is equal to MR and MC is greater than MR after $MC = MR$ output level.



Question 8. Can there be a positive level of output that a profit maximising firm produces in a competitive market at which market price is not equal to marginal cost? Give an explanation.

Answer No, because it is not possible as equality between market price and marginal cost is a necessary condition for perfectly competitive firm to be in equilibrium. Only when price remain constant at all output levels, the market price is equal to marginal revenue in case of perfect competition.



Question 9. Will a profit maximising firm in a competitive market ever produce a positive level of output in the range where the marginal cost is falling? Give an explanation.

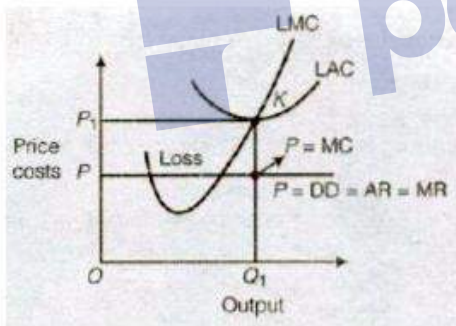
Answer No, because the essential condition of producer's equilibrium is that marginal cost curve should be rising. So, a profit maximising firm will produce that quantity of output at which its MC is rising and not falling.

Question 10. Will a profit maximising firm in a competitive market produce a positive level of output -in the short run if the market price is less than the minimum of AVC ? Give an explanation.

Answer No, a profit maximising firm will not produce a level of output in the short run when market price is less than the minimum of AVC. It happens because equality between market price and minimum AVC indicates shut down point and a firm will never operate at a price less than the minimum AVC.

Question 11. Will a profit maximising firm in a competitive market produce a positive level of output in the short run if the market price is less than the minimum of AC? Give an explanation.

Answer No, it is not possible for a firm to produce positive level of output in the long run, if the market price falls short of the minimum of AC. It is because in long run there is free entry and exit of firms which leads to generate normal profit as their earning. Thus, any firm making loss in long run stop the production



Question 12. What is the supply curve of a firm in the short run?

Answer The supply curve of a firm in the short run is less elastic and it is responsive to changes in price.

Question 13. What is the supply curve of a firm in the long run?

Answer The supply curve of a firm in the long run is highly elastic and it is more responsive to change in price.

Question 14. How does technological progress affect the supply curve of a firm?

Answer The technological progress affect the supply curve of a firm will shifts to downward (to the right) Because a firm can produce same level of output using less of inputs with improved technology. It causes fall to the marginal cost.

Question 15. How does the imposition of a unit tax affect the supply curve of a firm?

Answer A unit tax may be defined as the tax imposed by the government on per unit sale of output. The imposition of a unit tax shifts the marginal cost curve of the firm upward Affect in supply curve will shift to the left.

Question 16. How does an increase in the price of an input affect the supply curve of a firm?

Answer An increase in the price of an input will affect marginal cost curve upward. So, supply curve shifts to the left. Therefore, an Increase in the input price negatively affects the supply of the firm.

Question 17. How does an increase in the number of firms in a market affect the market supply curve?

Answer If number of firms increase in a market, the market supply curve will shift to the right as there will be more number of firms supplying more amount of output.

we measure it?

Answer The price elasticity of supply means the percentage change in quantity supplied caused by a given percentage change in price of commodity,

It is measured as

Price elasticity of supply (E_s) = Percentage of quantity supplied/ percentage change in price

$$E_s = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

ΔQ = change in supply

Δp = change in price

p = initial price

Q = initial supply

Question 19. Compute the total revenue, marginal revenue and average revenue schedules for the following Market price of each unit of the good is Rs 10.

| | | | | | | | |
|---------------|---|---|---|---|---|---|---|
| Quantity sold | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---------------|---|---|---|---|---|---|---|

Answer

| Quantity sold | Price | TR= $P \times Q$ | AR= TR/q | MR= $TR_n - TR_{n-1}$ |
|---------------|-------|------------------|------------|-----------------------|
| 0 | 10 | 0 | 10 | 0 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 20 | 10 | 10 |
| 3 | 10 | 30 | 10 | 10 |
| 4 | 10 | 40 | 10 | 10 |
| 5 | 10 | 50 | 10 | 10 |
| 6 | 10 | 60 | 10 | 10 |

Question 20. The following table shows the total revenue and total cost schedules of a competitive firm. Calculate the profit at each output level. Determine also the market price of the good.

| | | | | | | | | |
|---------------|---|---|----|----|----|----|----|----|
| Quantity sold | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| TR | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
| TC | 5 | 7 | 10 | 12 | 15 | 23 | 33 | 40 |

Answer

| | | | | | | | | |
|--------|----|----|---|---|---|---|----|----|
| Profit | -5 | -2 | 0 | 3 | 5 | 2 | -3 | -5 |
|--------|----|----|---|---|---|---|----|----|

Market price = TR/Q

i.e., $5/1 = 5$ at 2nd stage

$10/2 = 5$ in 3rd stage

and so on

Question 21. The following table shows the total cost schedule of a competitive firm. It is given that the price of the good is Rs 10. Calculate the profit at each output level. Find the profit maximising level of output

| | | | | | | | | | | | |
|-------|---|----|----|----|----|----|----|----|----|-----|-----|
| Price | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| TC | 5 | 15 | 22 | 27 | 31 | 38 | 49 | 63 | 81 | 101 | 123 |

Answer

| Price | TC | Price | TR- QxP | Profit = TR - TC |
|-------|-----|-------|---------|------------------|
| 0 | 5 | 10 | 0 | -5 |
| 1 | 15 | 10 | 10 | -5 |
| 2 | 22 | 10 | 20 | -2 |
| 3 | 27 | 10 | 30 | 3 |
| 4 | 31 | 10 | 40 | 9 |
| 5 | 38 | 10 | 50 | 12 |
| 6 | 49 | 10 | 60 | 11 |
| 7 | 63 | 10 | 70 | 7 |
| 8 | 81 | 10 | 80 | -1 |
| 9 | 101 | 10 | 90 | -11 |
| 10 | 123 | 10 | 100 | -23 |

The profit maximising level at 5 units sold where firm is earning profit of Rs 12.