

**I Choose the correct answer ( 1 marks questions)**

**1. A market structure which produces heterogeneous products is called**

- a) Monopoly
- b) Monopolistic competition
- c) Perfect competition
- d) None of the above

**Ans: (b) Monopolistic competition**

**2. The change in TR due to the sale of an additional unit is called**

- a) Total Revenue
- b) Average Revenue
- c) Marginal revenue
- d) Revenue

**Ans: c) Marginal revenue**

**3. When the price elasticity of demand is more than one, MR has a**

- a) Negative value
- b) Decreasing value
- c) Constant value
- d) Positive value

**Ans: d) Positive value**

4. Profit =

- a)  $P \times Q$
- b)  $TR - TC$
- c)  $TFC + TVC$
- d)  $TR/Q$

**Ans: (b)  $TR - TC$**

**II Fill in the blanks ( 1 marks questions)**

1. The monopoly firm's decision to sell a larger quantity is possible only at.....

**Ans: Lower prices.**

2. Competitive behavior and competitive market structure are in general.....related

**Ans: Inversely**

3. In monopoly market the goods which are sold have no.....

**Ans: Substitutes**

4.  $TR = \dots\dots\dots$

**Ans:  $P \times q$  (price x quantity)**

5. The revenue received by the firm per unit of commodity sold is called.....

**Ans: Average Revenue**

6. With the zero production cost, when the total revenue of monopoly firm is maximum, the profit is .....

**Ans: Maximum**

**III Answer the following questions in a sentence or a word. ( 1 marks questions)****1. What is monopoly?**

**Ans:** It is a market with one seller or firm with many buyers.

**2. Give the meaning of monopolistic competition.**

**Ans:** When the market structure has large number of firms, free entry and exit of firms and differentiated goods, then it is called monopolistic competition.

**4. Give the meaning of oligopoly market.**

**Ans:** If the market consists of more than one seller but the number of sellers is few, then it is called oligopoly market. Oligopoly in a commodity market occurs when there are a small number of firms producing a homogenous commodity.

**5. What is duopoly?**

**Ans:** It is a special case of oligopoly where there are exactly two sellers or firms.

**IV Answer the following questions in 4 sentences (2 marks questions)****1. State the meaning of average revenue and marginal revenue.**

**Ans:** Marginal Revenue of a firm is defined as the increase in total revenue for a unit increase in the firm's output. It is obtained by dividing the Change in Total Revenue ( $\Delta TR$ ) by Change in quantity ( $\Delta q$ ). Thus,  $MR = \Delta TR / \Delta q$ .

Average Revenue: We calculate Average Revenue, by dividing Total revenue by the quantity sold. The following formula used:

$$AR = TR/q$$

**3. State the relationship between Marginal revenue and price elasticity of demand.**

**Ans:** The values of Marginal Revenue have a relation with the price elasticity of demand. Price elasticity of demand is more than 1 when the Marginal Revenue has a positive value and becomes less than the unity when Marginal Revenue has a negative value.

**4. Write the meaning of monopolistic competition and give an example.**

**Ans:** When the market structure has large number of firms, free entry and exit of firms and differentiated goods, then it is called monopolistic competition.

For example, there is large number of soaps producing firms. But many of the soaps being produced are associated with some brand name and are distinguishable from the other companies. The consumer develops a preference for a particular brand of soap over time or becomes loyal to a particular brand like some people always prefer Mysore Sandal Soap.

**5. Write the features of monopoly.**

- Ans:**
- Existence of single seller or firm.
  - No close substitutes.
  - Barriers on entry of new firms.
  - Firm is a Price maker and buyers are price takers.

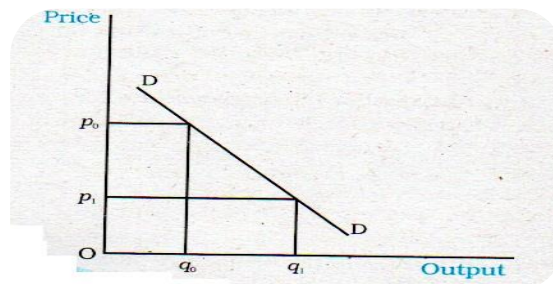
- Uniform price or price discrimination.
- No difference between firm and industry.
- Perfect knowledge.

**V Answer the following questions in 12 sentences. ( 4 marks questions)**

**1. What is market demand curve? Draw a market demand curve for a monopoly firm.**

**Ans:** The market demand curve shows the quantities that consumers as a whole are willing to purchase at different prices.

The market demand curve for a monopoly firm can be explained with the help of diagrams follows:



In the above diagram, price is measured in Y axis and quantity is measured X axis. If the market price is at P0 consumers are willing to purchase the q0 quantity. If the market price is less i.e., P1, consumers are willing to buy more quantity i.e., q1. That means, price in the market affects the quantity demanded by the consumers.

Therefore, monopoly firm's decision to sell a larger quantity is possible only at a lower price. If the monopoly firm brings a smaller quantity of the commodity into the market for sale it will be able to sell at a higher price. Thus, for the monopoly firm, the price depends on the quantity of the commodity sold.

For a monopoly firm, price is decreasing function of the quantity sold. So, the market demand curve for a monopolist expresses the price that consumers are willing to pay for different quantities supplied. This idea is reflected in the statement that the monopoly firm faces the downward sloping market demand curve.

**2. Calculate TR and MR from the following table.**

<b>Q</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>P</b>	<b>100</b>	<b>90</b>	<b>80</b>	<b>70</b>	<b>60</b>	<b>50</b>	<b>40</b>	<b>30</b>	<b>20</b>	<b>10</b>

**Ans: Hint: TR = P x**

**Q; MR = TRn – TRn-1**

<b>Q</b>	1	2	3	4	5	6	7	8	9	10
<b>P</b>	100	90	80	70	60	50	40	30	20	10
<b>TR</b>	100	180	240	280	300	300	280	240	180	100
<b>MR</b>	-	80	60	40	20	0	-20	-40	-60	-80

**3. Briefly explain the monopolistic competitive market.**

**Ans:** When the market structure has large number of firms, free entry and exit of firms and differentiated goods, then it is called monopolistic competition.

For example, there is large number of biscuits producing firms. But many of the biscuits being produced are associated with some brand name and are distinguishable from the other companies. The consumer develops a taste for a particular brand of biscuits over time or becomes loyal to a particular brand and he may not immediately be willing to substitute it for another biscuit. However, if the price difference becomes large, the consumer would be willing to choose a biscuit of another brand which is of lower price.

Therefore, the demand curve faced by the firm in monopolistic competitive market is not perfectly elastic. The demand curve faced by the firm is also not market demand curve. In monopolistic competition, the firm expects increase in demand if it reduces the price. So, the demand curve (AR curve) is downward sloping. The Marginal Revenue curve will be less than Average revenue and is downward sloping.

The monopolistic competitive firm is also a profit maximiser. So it will increase production as long as the addition to its total revenue is greater than the addition to its total costs. In other words, the firm under monopolistic competition will produce the quantity that equates its marginal revenue to its marginal cost. But, here, the firm produces less than the perfectly competitive firm. This is because, given the lower output, the price of the commodity becomes higher than the price under perfect competition.

The above situation exists in the short run. But in the long run, new firms may enter the market. If the firms in the industry are receiving supernormal profit in the short run, this will attract new firms. As new firms enter, some customers shift from existing firms to these new firms. So, existing firms find that their demand curve has shifted leftward. This reduces firm's profits. This continues till supernormal profits are wiped out and firms are making only normal profits.

On the other hand, if firms in the industry are facing losses in the short run, some firms would stop producing (exit). The demand curve for existing firms would shift leftward. This would lead to a higher price and higher profit. Entry or exit would stop once supernormal profits become zero and this will be long run equilibrium under monopolistic competition.

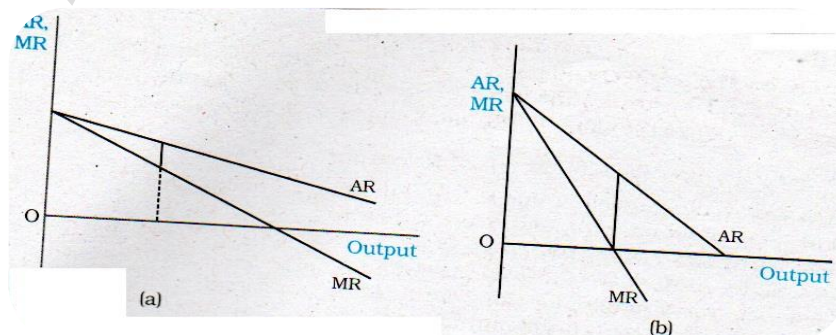
**4. Show the relationship between average revenue and marginal revenue of a monopoly market with the help of diagrams.**

**Ans:** Marginal Revenue of a firm is defined as the increase in total revenue for a unit increase in the firm's output. It is obtained by dividing the Change in Total Revenue ( $\Delta TR$ ) by Change in quantity ( $\Delta q$ ). Thus,  
 $MR = \Delta TR / \Delta q$ .

**Average Revenue:** We calculate Average Revenue, by dividing Total revenue by the quantity sold. The following formula used:

$$AR = TR/q$$

The relationship between AR and MR of a monopoly market can be shown with the help of following diagrams:



The above diagram shows that the MR curve lies below the AR curve. That means, if the AR curve is falling steeply, the MR curve is far below the AR curve. If the AR curve is less steep, the vertical distance between the AR and MR curves is smaller. The diagram (a) shows a flatter AR curve while diagram (b) shows a steeper AR curve. Therefore, for the same units of the commodity, the difference between AR and MR in diagram (a) is less than the difference in diagram (b).

### 5. Explain how the firms behave in oligopoly.

**Ans:** If the market of a particular commodity consists of a few number of sellers, the market structure is termed oligopoly.

Given there are a few firms, each firm is relatively large when compared to the size of the market. As a result each firm is in a position to affect the total supply in the market and thus influence the market price.

For example, if a firm decides to double its output, the total supply in the market will increase, causing the price to fall. This fall in price affects the profits of all firms in the industry. Other firms will respond to such a move in order to protect their own profits, by taking fresh decisions regarding how much to produce. Therefore the level of output in the industry, the level of prices, and the profits are outcomes of how firms are interacting with each other.

**Case- 1:** Firms could decide to collude with each other to maximize profits. Here the firms form a cartel (an association) that acts as a monopoly. The quantity supplied collectively by the industry and the price charged are the same as a single monopoly firm.

**Case-2:** The firms could decide to compete with each other. For example, a firm may lower its price a little below the other firms, in order to attract away their customers. Certainly, the other firms would retaliate by doing the same. So the market price keeps falling.

In reality, cooperation of the kind that is needed to ensure a monopoly outcome is often difficult to achieve in the real world. The firms may realize that competing fiercely by continuous price cuts is harmful to their own profits

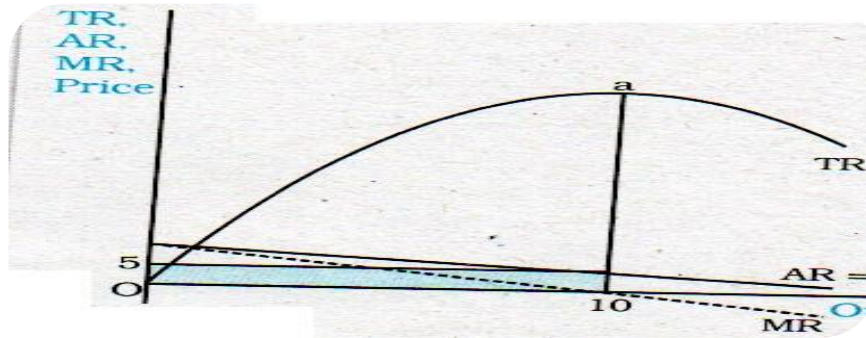
### VI Answer the following questions in 20 sentences. (6 marks questions)

#### 1. Explain the short run equilibrium of a monopoly firm with the help of the simple case of zero cost.

**Ans:** Every monopolist aims at maximizing profit. Here, we try to analyze the profit maximizing behaviour to determine the quantity produced by a monopoly firm and price at which it is sold.

Let us imagine that there exists a village situated far way from other villages. In this village, there is exactly one well from which water is available. All residents are completely dependent for their water requirements on this well. The well is owned by one person who is able to prevent others from drawing water from it except through purchase of water. The person who purchases the water has to draw the water out of the well. The well owner is thus a monopolist firm which bears zero cost in producing the good. We shall analyse this simple case of a monopolist bearing zero costs to determine the amount of water sold and the price at which it is sold.

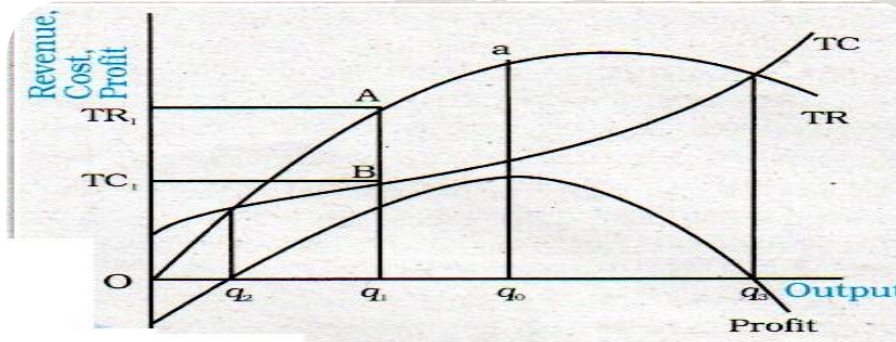
The short run equilibrium of the monopolist with zero cost can be explained with the help of the following diagram:



In the above diagram, TR, AR and MR curves are revenue curves. The profit received by the firm equal the revenue received by the firm minus the cost incurred. Since TC is zero, profit is maximum when TR is maximum. This occurs when output is of 10 units. This is the level when MR equals zero. The amount of profit is given the length of the vertical line segment from 'a' to the horizontal axis.

**2. Explain the short run equilibrium of a monopolist firm, when the cost of production is positive by using TR and TC curves with the help of diagram.**

**Ans:** The short run equilibrium of a monopolist firm, when the cost of production is positive by using TR and TC curves can be explained with the help of diagram as follows:



In the above diagram Total Cost, Total Revenue and Profit curves are drawn. The profit received by the firm equals the total revenue minus the total cost. In the diagram, if quantity

$q_1$  is produced, the Total Revenue is  $TR_1$  and Total cost is  $TC_1$ . The difference  $TR_1 - TC_1$  is the profit received. The same is depicted by the length of the line segment AB i.e., the vertical distance between the TR and TC curves at  $q_1$  level of output.

If the output level is less than  $q_2$ , the TC curve lies above the TR curve, i.e., TC is greater than TR and therefore profit is negative and the firm makes losses. The same situation exists for output levels greater than  $q_3$ . Hence, the firm can make positive profits only at output levels between  $q_2$  and  $q_3$  where TR curve lies above the TC curve. The monopoly firm will chose that level of output which maximizes its profit. This would be level of output for which the vertical distance between TR and TC is maximum and TR is above the TC i.e.,  $TR - TC$  is maximum This occurs at the output level  $q_0$ .

**3. The market demand curve for a commodity and the total cost for a monopoly firm producing the commodity is given by the schedule below. Use the information to calculate the following.**

Quantity	0	1	2	3	4	5	6	7	8
Price	52	44	37	31	26	22	19	16	13

<b>Quantity</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>Total cost</b>	<b>10</b>	<b>60</b>	<b>90</b>	<b>100</b>	<b>102</b>	<b>105</b>	<b>109</b>	<b>115</b>	<b>125</b>

- a) The MR and MC schedules
- b) The quantity for which the MR and MC are equal
- c) The equilibrium quantity of output and equilibrium price of the commodity
- d) The total revenue, Total Cost, and Total profit in equilibrium

**Ans:**

<b>Quantity</b>	<b>Price</b>	<b>TR</b>	<b>MR</b>	<b>TC</b>	<b>MC</b>
0	52	0	-	10	-
1	44	44	44	60	50
2	37	74	30	90	30
3	31	93	19	100	10
4	26	104	11	102	2
5	22	110	6	105	3
6	19	114	4	109	4
7	16	112	-2	115	6
8	13	104	-8	125	10

- a) Quantity where MR and MC are equal is 6
- b) Equilibrium quantity is 6 and Equilibrium price is 19
- c) Total Revenue is 114 and Total cost is 109
- d) Profit = TR-TC i.e.,  $114-109 = 5$ ; therefore Profit=5.