ANALYSIS OF FIRM'S REVENUE

The main aim of every firm is to maximize it's profit.

$$\text{While profit} \quad = \quad \text{Total revenue} - \text{Total cost}$$

$$\pi \quad = \quad TR - TC$$

Thus revenue concepts must be discussed along with cost concepts to find out the output units of the firm which will bring maximum profit.

There are three main concepts of revenue:-

1. **TOTAL REVENUE (T R):-**

It is the total amount obtained by a firm after selling its' total output produced during a specific time period. Thus $TR = P \cdot Q$

If a firm produces 100 units of commodity X per day which is sold at Rs. 80 per unit. Total revenue $= 100 \times 80 = 8000$ Rs.

2. **AVERAGE REVENUE (A R):-**

Average per unit amount received by a firm is known as AR. It is actually the price received per unit of product. Thus $AR = P$ while $A R = \dfrac{TR}{Q}$ which means that in order to know AR. TR is divided by units of output sold (Q).

$$\text{Suppose } TR = 8000 \text{ at } Q = 100, \text{ Thus } AR = \frac{8000}{100} = 80 \text{ Rs.}$$

3. **MARGINAL REVENUE (M R):-**

It is the net addition in total revenue (TR) after producing and selling an additional unit of output. Suppose, $TR = 8000$ at $Q = 100$ when an additional unit is produced and sold $Q = 101$ and $TR = 8075$. Then $MR = 8075 - 8000 = 75$ (Rs.). Thus MR is the revenue received by selling an additional or last unit of output. MR also indicates the rate of change of TR.

$$\text{Henc MR} \quad = \quad \frac{\Delta TR}{\Delta Q} = \frac{dTR}{dQ}$$
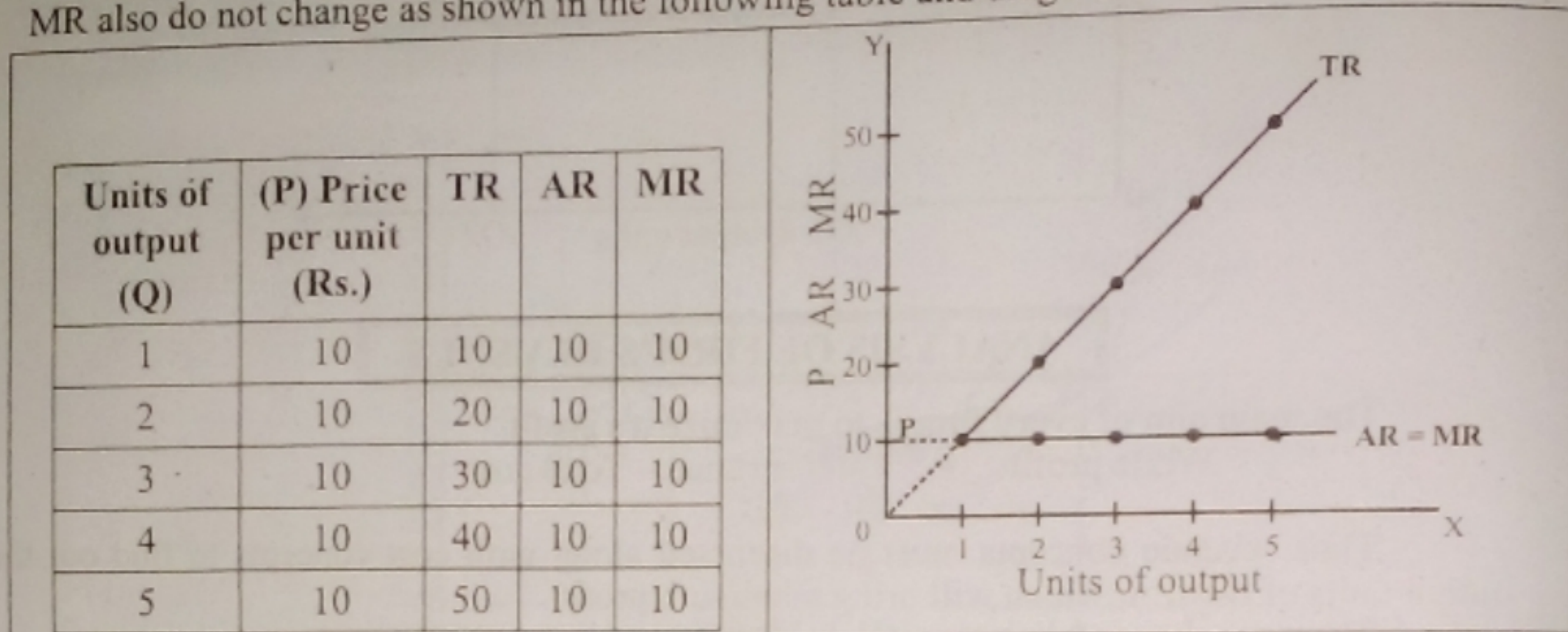
REVENUE CURVES UNDER PERFECT COMPETITION:

Under perfect competition following conditions are fulfilled in the market.

1. Homogeneous product.
2. Free entry and exit in the market.
3. Large number of buyers and sellers.

4. Elastic supply of factors of production.

5. Perfect knowledge of the market.

In view of above mentioned conditions no individual buyer or seller can influence market price. Thus price remains the same at all levels of selling. As P = AR thus AR and MR also do not change as shown in the following table and diagram.

Units of output (Q)	(P) Price per unit (Rs.)	TR	AR	MR
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

Above table shows that price per unit output remains the same (Rs.10) at all sale levels. As P = AR thus average revenue and marginal revenue also remains un-changed. Total revenue goes on increasing as more units of output are sold.

It is clear from the diagram that price (P) average revenue (AR) and marginal (MR) represent a single straight line parallel to x-axis. Thus P = AR = MR under perfect competition but TR curve shows rising trend at a constant rate.

REVENUE CURVE UNDER MONOPOLY AND IMPERFECT COMPETITION:-

Monopoly represents the situation where only one firm has full control over the production / supply of the commodity / service. There is no close substitute available for the product. A monopolist has the power to increase or decrease the price of the commodity. To promote the sale when price is lowered down. Average revenue (AR) follows the change in price and marginal revenue (MR) also tends to change.

As MR falls sharply than AR, Thus while falling MR remains below the AR curve.
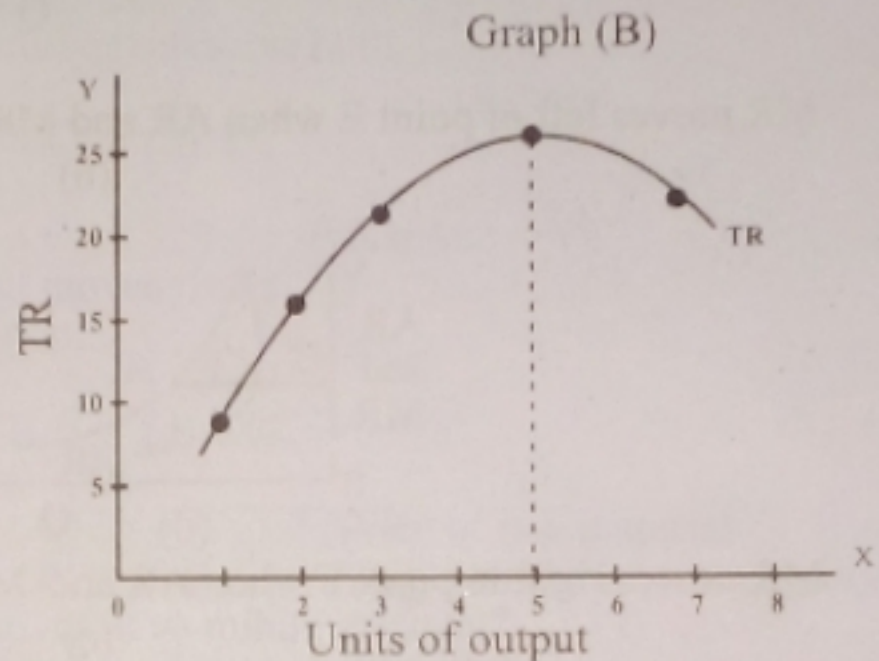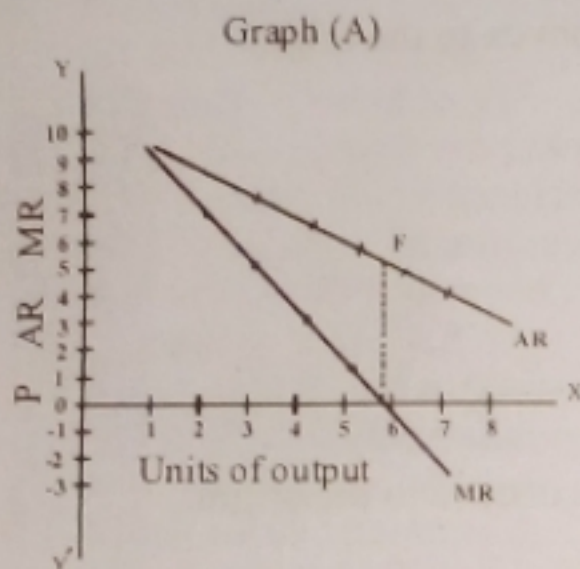
Same is the situation under imperfect competition whether it is duopoly, oligopoly or monopolistic competition.

The relationship between AR and MR curves has been shown is the following schedule and graph.

SCHEDULE:

Units of output (Q)	Price (Rs) per unit	TR	AR	MR
1	9	9	9	9
2	8	16	8	7

3	7	21	7	5
4	6	24	6	3
5	5	25	5	1
6	4	24	4	-1
7	3	21	3	-3

Graph (B)

Graph (A)

1. Graph (A) shows falling AR and MR as with the decrease in price (P) sale of output increases. It must be remembered that:-

   (a) MR falls sharply and remains below the AR curve.

   (b) MR may become zero or negative but as AR = P thus neither AR is zero nor negative.

2. Graph (B) shows increase in total revenue up to output Unit No. 5 where MR = 1. After it when MR becomes negative (MR<0) then total revenue start falling. Hence TR rises touches it's maximum height and then falls.