

Q. Explain how does AR and MR curve of a firm under perfect competition determine?

OR

Explain how does economic efficiency in the market determine?

Ans. Generally an industry always determine economically efficient situation in the market. Practically, economic efficiency is said to achieve when price and output is determined through the market forces of demand and supply. An industry also determines price for the firms on the basis of equality between the demand and supply of the commodity. Basically the industry determine price must be well accepted by the firms in the market because of which the AR curves of the firm become parallel to horizontal axis. It should be noted that from the economic efficiency point of view, the output which is determined by the demand and supply forces is considered as economic efficient output.

For a perfectly competitive firm, since price is given, therefore price curve on AR curve is become perfectly elastic. Since in perfect competition, there exists product homogeneity, therefore price of each and every unit must also be the same. Even additional product in the market is also sold at the same price. Therefore for such a firm the price = AR = MR.

The determination of economic efficient condition or determination of equilibrium condition of the industry which can determine price curve for the firm can diagrammatically be explained as follows.

Figure : 1

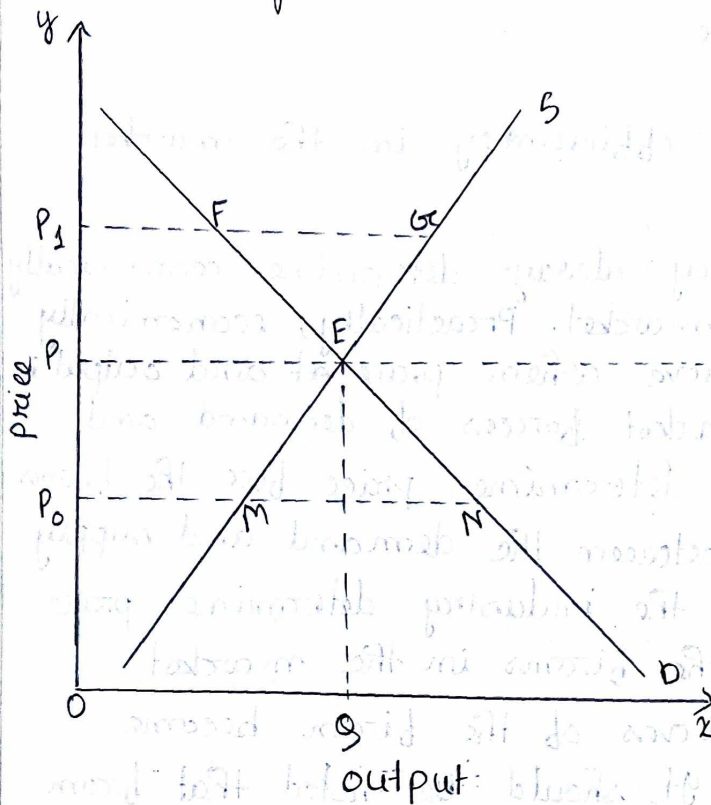
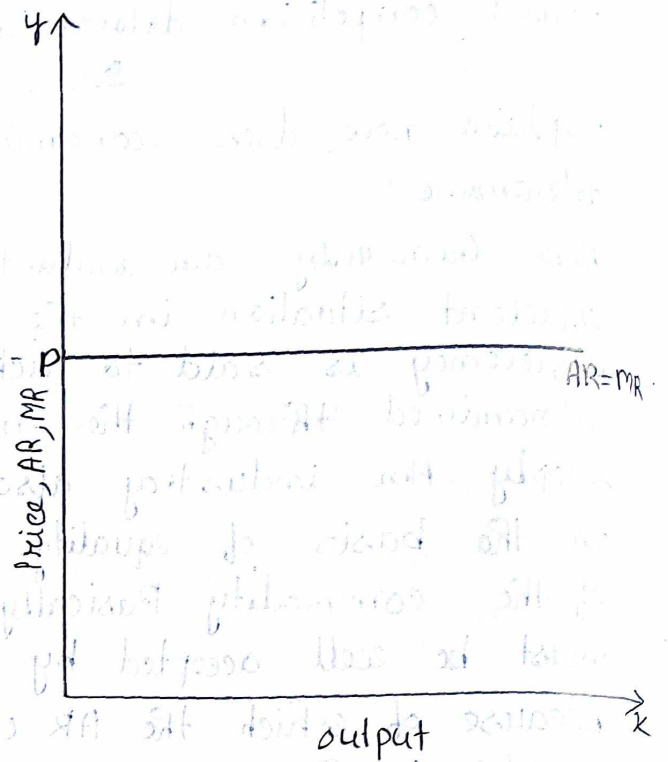


Figure : 2



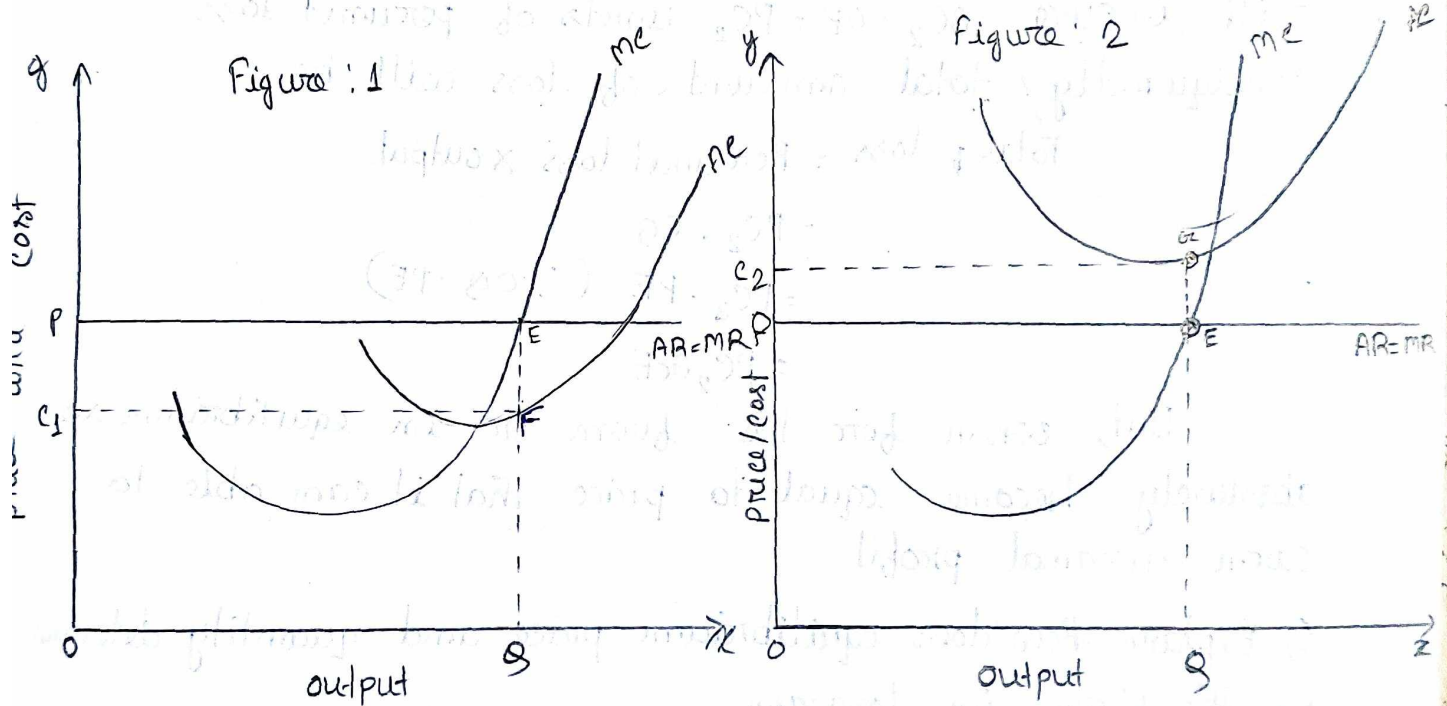
In the above diagrams figure 1 shows the equilibrium of an industry and figure 2 shows derivation of AR and MR curve for the firm. In figure 1 the demand curve D and supply curve S intersects each other at point E. Therefore E is the economically efficient position at where price is OP. Though the industry does not produce output, but it should be noted that economically efficient output should be OQ.

The industry determined price OP is fixed for all the firms and hence the price of the AR curve in figure 2 is parallel to x axis. Generally price cannot change at a point of time it is because if price is allowed to change then price may be either OP_0 or OP_1 . At OP_0 price, there is ~~ex~~ excess demand which is MN unit. But if price is OP_1 then there will be FG unit of excess supply. Thus OP is that price at where there does not arise any ~~ex~~ excess demand or excess supply.

in the market.

Q. Explain how does equilibrium quantity for a perfectly competitive firm determine in short run.

Ans Generally for any perfectly competitive firm, price is determined by the industry on the basis of market demand and supply. Therefore the firm can determine equilibrium quantity in the short run in such a way that it can earn either super normal profit or normal profit or even may incur loss. Among all these possibilities, the condition of super normal profit and loss can diagrammatically be explain as follows —



In the above diagrams figure 1 shows the determination of output under the condition of maximum profit. Again figure 2 shows the determination of equilibrium output under loss. In both the diagrams the MC curve cuts the MR curve from below at point E. Therefore the equilibrium price and quantity are OP and OQ respectively.

In figure 1, with respect to point E, the short-run AC is determined at point F. Therefore OC_1 is the per-unit cost in short-run. Consequently the firm will earn $OP - OC_1 = PC_1$ amount of per-unit profit. Under such a condition, the amount of total profit is given by

$$\begin{aligned} \text{Total profit} &= \text{Per-unit profit} \times \text{output} \\ &= PC_1 \cdot OQ \\ &= PC_1 \cdot E_1F \quad (\because OQ = E_1F) \\ &= PC_1 FE \end{aligned}$$

Again in figure 2 with respect to point E the per-unit cost is given by OC_2 which is comparatively higher than equilibrium price OP . Therefore the firm will incur $OC_2 - OP = PC_2$ units of per-unit loss. Consequently total amount of loss will be

$$\begin{aligned} \text{Total loss} &= \text{Per-unit loss} \times \text{output} \\ &= PC_2 \cdot OQ \\ &= PC_2 \cdot PE \quad (\because OQ = PE) \\ &= PC_2 GE \end{aligned}$$

But, when for the firm AC in equilibrium is absolutely become equal to price that it can able to earn normal profit.

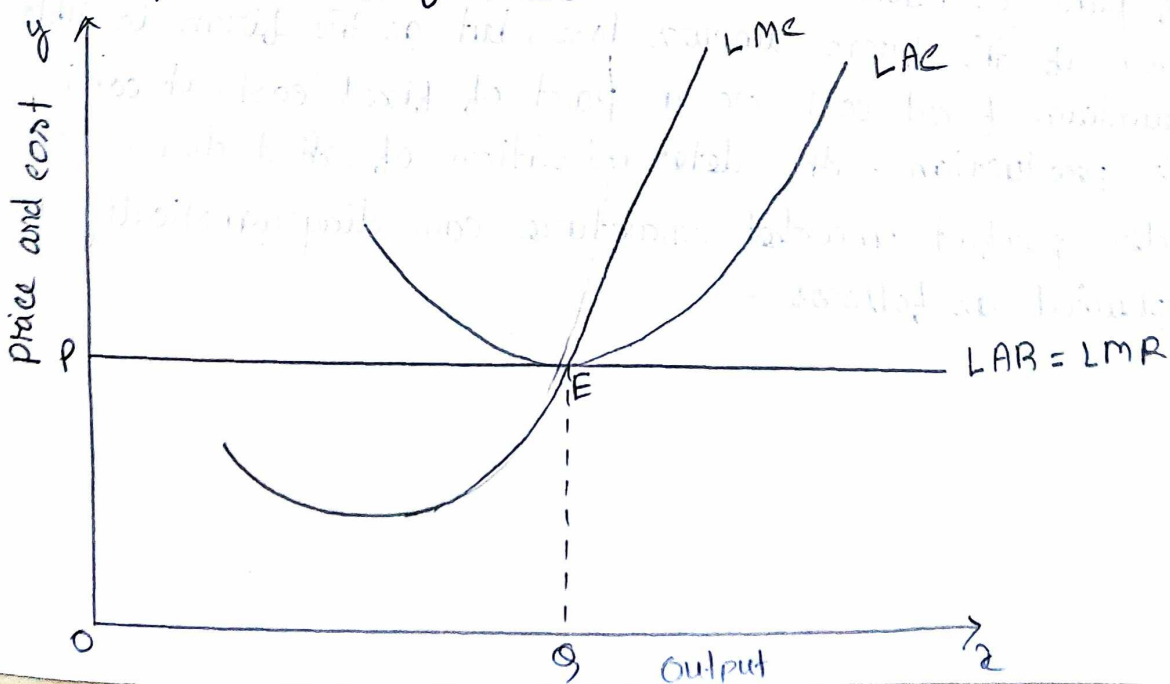
Q. Explain how does equilibrium price and quantity determined by the firm in long run.

OR
Analyse the impact of entry and exit of firm in the long run.

OR
Why does the firm produce ^{output} at the minimum cost in the long run? What will happen on equilibrium profit under such a situation? Explain. 10

Under perfect market structure there arises the possibility of free entry and exit of firm either into the market and from the market in the long run. Generally when the firm is earning super normal profit in the short run then by attracting such profit, some new firms may enter into the industry. As a result the total number of firms in the industry will increase and the proportion of producing output for each firm will decrease than before. Consequently, all the firms in the long run will earn only normal profit. Similarly when some firms are incurring loss then some of them may leave the market in the long run. As a result, total number of firms in the industry will decrease than before. Consequently the proportion of producing output by the existing firm in the long run will increase and able to earn normal profit. Thus impact of entry and exit helps the firm to earn only normal profit in the long run.

The determination of equilibrium price and quantity in the long run for the firm can diagrammatically be explained as follows —

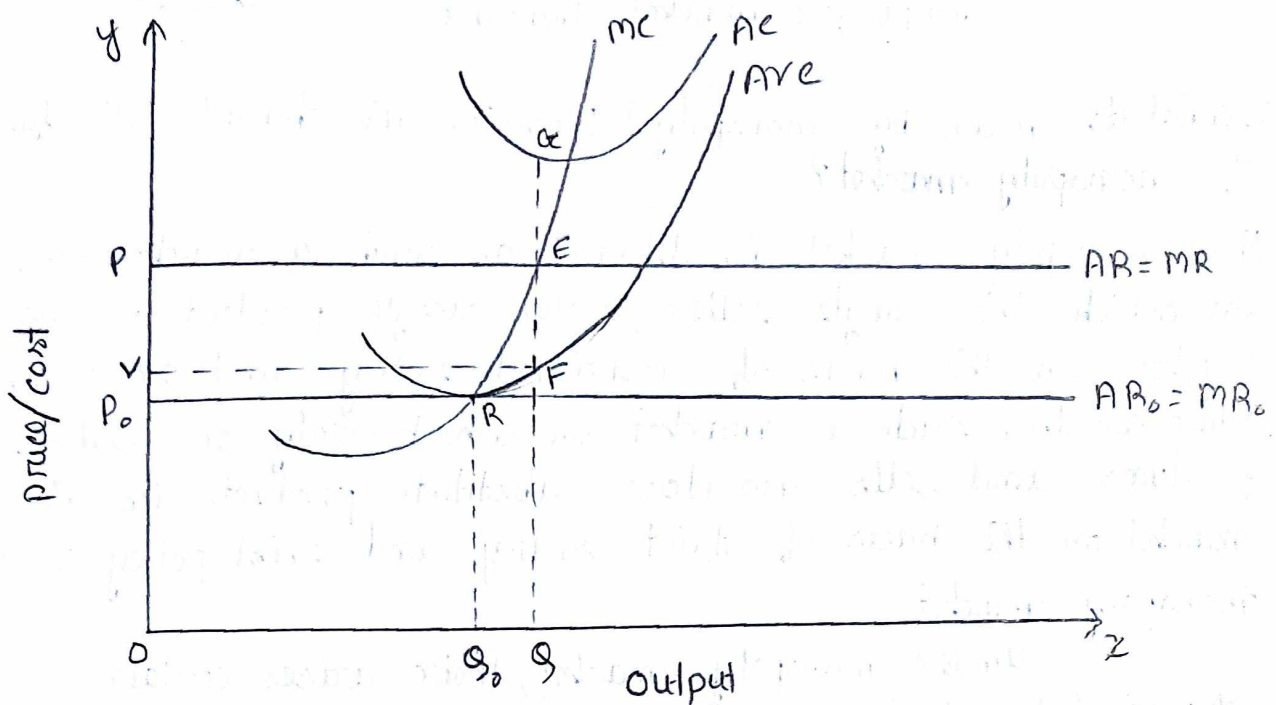


The long run MC curve cuts the long run MR curve from below at point E. Therefore E is the equilibrium point where equilibrium price and quantity are OP and OQ respectively. With respect to point E, the AC is also OP in the long run. Obviously, at equilibrium E, the long run AC is minimum. Therefore at long run equilibrium point the firm earns only the normal profit where

$$\text{price} = LAR = LMR = LMC = LAE.$$

Q. What do you mean by shutdown point? Explain why a firm under perfect market structure produce output even by incurring loss. OR Does a firm continue its production below the point of ~~maximum~~ minimum AC explain? OR why does a firm not produce any output if price comes below minimum AVC? Discuss

Ans Generally shutdown point is defined as a situation at which the firm have not any intention to continue the level of output production. When, for firm price wants to come below the minimum point of AVC then the position at which price is become equal to AVC is call shutdown point. Therefore the concept of AVC shutdown point does not arise if price is below the minimum AC. Under such a situation even if the firm incurs loss, but as the firm is able to maintain fixed cost or a part of fixed cost, it continues its production. The determination of shutdown point under perfect market structure can diagrammatically be explained as follows —



In the diagrams, the MC curve cuts MR curve from below at point E, therefore OP is the equilibrium price and OQ is quantity with respect to point E the AC is determined at point G which is higher than OP price. Therefore the firm is incurring loss, but it continues production. Even with respect to E the AVC is determined at F. Hence OV is the per unit variable cost which is lower than price OP. Therefore equilibrium point E cannot be the shut down point through the firm is incurring loss. When price is assumed to come below to OP which is OP_0 then equilibrium is achieved at point H. At H, the AVC is minimum because of which the firm will incur loss of ~~which~~ whole amount of fixed cost. But if price again wants to come below OP_0 then the firm will shut down the level of production at point H.