Q8. Will the monopolist firm continue to produce in the short run if a loss is incurred at the best short run level of output?
Ans: A monopolist firm can earn losses in the short run if the price is less than the minimum of AC. But if the price falls below the minimum of AVC, then the monopolist will stop production. The firm will continue to produce when the price is in between the minimum of AVC and the minimum of AC.

Q9. Explain why the demand curve facing a firm under monopolistic competition is negatively sloped.
Ans: A monopolistic firm has differentiated products; thus, it has to lower its price in order to increase its sales. Further, the products of different monopolistic firms are close substitutes to each other. Hence, the demand for all the products is elastic. For this reason, the demand curve is negatively sloped.

Q10. What is the reason for the long run equilibrium of a firm in monopolistic competition to be associated with zero profit?
Ans:The long run time horizon is featured by the free entry and exit of firms. If the firms in the short run are earning abnormal or super normal profits, then, new firms will be attracted to enter the market. Due to the new entrants, the market supply will increase. It leads to the reduction in the price that ultimately falls sufficiently to become equal to the minimum of average cost. When the market price is equal to the minimum of AC, it implies that all the firms earn normal profit or zero economic profit.
On the contrary, if in the short run the firms are earning abnormal losses, then the existing firms will stop production and exit the market. This will lead to a decrease in the market supply, which will ultimately raise the price. The price will continue to rise until it becomes equal to the minimum of AC. 'Price = AC' implies that in the long run all the firms will earn zero economic profit.
Hence, when the price is equal to the minimum of AC, neither any existing firm will exit nor any new firm will enter the market.

Q11. List the three different ways in which oligopoly firms may behave.

Ans: Oligopoly firms may behave in the following three ways:
i)Cartel – In order to avoid undue competition, oligopolistic firms may engage in formal agreements or contracts. This will not only allow them to maximise their total profits together, but also capture a significant market portion.
ii) Informal understanding – Each firm may decide on its own, how much units of output is to be produced for maximising its individual profit, assuming that other firms would not change their strategies and decisions regarding the units of output to be produced.
iii) Advertisement and differentiated product – It may happen that the firms realise that price competition will leave them nowhere and consequently they emphasise more on advertising their products. It will enable them to capture the minds of consumers and indirectly increase their market portion.

Q12. If duopoly behaviour is one that is described by Cournot, the market demand curve is given by the equation q= 200 – 4p and both the firms have zero costs, find the quantity supplied by each firm in equilibrium and the equilibrium market price.

Ans: Market demand curve
Q = 200 – 4p
When the demand curve is a straight line and total cost is zero, the duopolistic finds it most profitable to supply half of the maximum demand of a good.
At P = Rs 0, market demand is
Q = 200 – 4 (0)
= 200 units
If firm B does not produce anything, then the market demand faced by firm A is 200 units.

Therefore, The supply of firm A = $\frac{1}{2} \times 200 = 100$ units

In the next round, the portion of market demand faced by firm B is $200 - \frac{200}{2} = 200 - 100 = 100$ units

Therefore, Firm B would supply $\frac{1}{2} \times \left(200 - \frac{200}{2}\right) =$ 50 units

Thus, firm B has changed its supply from zero to 50 units. To this firm A would react accordingly and the demand faced by firm A will be

$200 - \frac{1}{2} \times \left(200 - \frac{200}{2}\right)$

= 200 – 50
= 150 units

Therefore, Firm A would supply $= \frac{150}{2} = 75$ units

The quantity supplied by firm A and firm B is represented in the table below.

Round	Firm	Quantity Supplied
1	B	0
2	A	$\frac{1}{2}\times 200 = \frac{200}{2} = 100$
3	B	$\frac{1}{2}\times\left[200-\frac{1}{2}\times 200\right] = \frac{200}{2}-\frac{200}{4}$
4	A	$\frac{1}{2}\times\left[200-\frac{1}{2}\left(200-\frac{1}{2}\times 200\right)\right] = \frac{200}{2}-\frac{200}{4}+\frac{200}{8}$
5	B	$\frac{1}{2}\left\{200-\frac{1}{2}\left[200-\frac{1}{2}\left(200-\frac{1}{2}\times 200\right)\right]\right\} = \frac{200}{2}-\frac{200}{4}+\frac{200}{8}-\frac{200}{16}$

Therefore, the equilibrium output supplied by firm A

$$=\frac{200}{2}-\frac{200}{4}+\frac{200}{8}-\frac{200}{16}+\frac{200}{32}+\frac{200}{64}+\frac{200}{128}+\frac{200}{256}+\ldots\ldots=\frac{200}{3}\,units$$

Similarly, the equilibrium output supplied by firm B = $\frac{200}{3}$ units.

Market Supply = Supply by firm A + Supply by firm B= $\frac{200}{3}+\frac{200}{3}$

Equilibrium output or Market Supply = Q = $\frac{400}{3}$ units .... (1)

For equilibrium price

$Q = 200 - 4p$

$4p = 200 - Q$

$$p = 50 - \frac{Q}{4}$$

$$p = 50 - \frac{1}{4}\left(\frac{400}{3}\right) \quad \text{[from (1)]}$$

$$p = 50 - \frac{100}{3}$$

$$p = \frac{150 - 100}{3}$$

$$p = \text{Rs } \frac{50}{3}$$

Therefore, the equilibrium output (total) is $\frac{400}{3}$ units and equilibrium price is Rs $\frac{50}{3}$.

Q13. What is meant by prices being rigid? How can oligopoly behaviour lead to such an outcome?

Ans: Price rigidity implies that the price is unresponsive to the changes in demand. This is because of the fact that even if any firm raises the price of its product with the motive of earning higher profits, the other firm will not do so, and the first firm will lose its customers. On the other hand, if one firm lowers its price in order to earn higher profits by maximising its sales, then in response, the other firm may also reduce the price. Consequently, the increase in total market sales is shared by both the firms. The firm that initiated selling at a lower price may get a lower share of the increase than expected.

Therefore, the firms do not change their prices due to the fear of rival's reaction. Hence, there is no incentive for any firm to change its price. That is why the prices are regarded as rigid prices or sticky prices.

*********** END **********