

67. We know that

$$\text{Average Fixed Cost (AFC)} = \frac{\text{TFC}}{\text{Quantity}}$$

Since, TFC is constant, therefore with the rise in the quantity this ratio i.e.  $\left(\frac{\text{TFC}}{\text{Quantity}}\right) = \text{AFC}$  gets smaller and smaller.

∴ (i) is correct that its slope is always negative.

(ii) is incorrect because its slope always changes and it always decreases.

(iii) By the above logic, (iii) is also incorrect.

(iv) is also incorrect because we know that elasticity consists of slope. And as we discussed its slope continuously falls, therefore elasticity cannot be always one.

From the following example, we can prove all the above statements.

Suppose that  $\text{TFC} = 100$ .

| Quantity | AFC             | Slope of AFC            |
|----------|-----------------|-------------------------|
| 1        | $100/1 = 100$   | 100                     |
| 2        | $100/2 = 50$    | $50 - 100 = -50$        |
| 3        | $100/3 = 33.33$ | $33.33 - 50 = -16.67$   |
| 4        | $100/4 = 25$    | $25 - 33.33 = -8.33$    |
| 5        | $100/5 = 20$    | $20 - 25 = -5$          |
| 6        | $100/6 = 16.66$ | $16.66 - 20 = -3.34$    |
| 7        | $100/7 = 14.28$ | $14.28 - 16.66 = -2.38$ |

From the above column, it is clear that AFC is continuously falling and slope of AFC is also falling.