

**Q7. A company manufactures cassettes. Its cost and revenue functions are  $C(x) = 26000 + 30x$  and  $R(x) = 43x$ , respectively, where  $x$  is the number of cassettes produced and sold in a week. How many cassettes must be sold by the company to realise some profit?**

**Sol.** Cost function:  $C(x) = 26000 + 30x$  Revenue function:  $R(x) = 43x$  For profit,  $R(x) > C(x)$

$$\Rightarrow 26000 + 30x < 43x$$

$$\Rightarrow 43x - 30x > 26000$$

$$\Rightarrow 13x > 26000$$

$$\Rightarrow x > 2000$$

Hence, more than 2000 cassettes must be produced to get profit.