



Number System Ex 1.3 Q3

$$(v) \text{ Let } x = 125.\bar{3}$$

$$\Rightarrow x = 125 + 0.\bar{3}$$

$$\Rightarrow x = 125 + \frac{1}{3} \quad \left(\because 0.\bar{3} = \frac{1}{3} \right)$$

$$\Rightarrow x = \frac{375 + 1}{3}$$

$$\Rightarrow x = \frac{376}{3}$$

$$\text{Hence, } \boxed{125.\bar{3} = \frac{376}{3}}$$

Number System Ex 1.3 Q4

(vi) Let $x = 4.\bar{7}$

$$x = 4 + 0.\bar{7}$$

$$\text{Let } y = 0.\bar{7} = 0.777\dots$$

$$\Rightarrow 10y = 7 + 0.777\dots$$

$$\Rightarrow 10y = 7 + y$$

$$\Rightarrow y = \frac{7}{9}$$

Therefore,

$$x = 4 + \frac{7}{9} = \frac{43}{9}$$

$$\text{Hence, } \boxed{4.\bar{7} = \frac{43}{9}}$$

(vii) Let $x = 0.4\bar{7}$

$$\Rightarrow 10x = 4 + 0.\bar{7}$$

$$\text{Since, } 0.\bar{7} = \frac{7}{9}$$

Therefore,

$$\Rightarrow 10x = 4 + \frac{7}{9} = \frac{43}{9}$$

$$\Rightarrow x = \frac{43}{90}$$

$$\text{Hence, } \boxed{0.4\bar{7} = \frac{43}{90}}$$

***** END *****