

Hassan, Ali, Akbar, Nasir and Shabbaz are classmates having different pocket money. Hassan's pocket money is one third as much as of Ali and Ali has five times as much as Akbar. Akbar has thrice as much as Nasir and Shabbaz gets equal to Nasir and that of Ali. If they get Rs. 8,000, then find pocket money of each.

Soln:-

$$\text{Hassan (H)} = \frac{1}{3} (\text{Ali})$$

$$\text{Ali (A)} = 5 (\text{Akbar})$$

$$\text{Akbar (K)} = 3 (\text{Nasir})$$

$$\text{Shabbaz (S)} = \text{Nasir (N)} + \text{Ali (A)}$$

So, we can write above

$$H = \frac{1}{3} A \rightarrow (1)$$

$$A = 5K \rightarrow (2)$$

$$K = 3N \rightarrow (3)$$

$$S = N + A \rightarrow (4)$$

Using, eqn (3), Eqn (2) and (4) becomes

$$\boxed{K = 3N}$$

$$A = 5(3N)$$

$$A = 15N$$

$$H = \frac{1}{3}(15N)$$

$$H = 5N$$

$$S = N + 15N$$

$$S = 16N$$

For N :-

$$S - 15N = N$$

$$N = (16 - 15)N$$

$$\text{Nasir}(N) = 1N$$

$$\text{Total parts} = H + A + K + N + S$$

$$= 5N + 15N + 1N + 16N$$

$$\text{Total parts} = 40N$$

$$\text{Share}^{\text{as}} \text{ of Hassan (H)} = \frac{\text{given ratio (Total amount)}}{\text{total part}}$$

$$\text{Hassan's share} = \frac{5N}{40N} (8,000)$$

$$\text{Hassan's share} = 1000$$

$$\text{Ali's share} = \frac{15N}{40N} (8,000)$$

$$\text{Ali's share} = 3,000$$

$$\text{Nasir's share} = \frac{1N}{40N} (8,000)$$

$$\text{Nasir's share} = 200$$

$$\text{Shahbaz's share} = \frac{6N}{40N} (8,000)$$

$$\text{Shahbaz's share} = 32,000$$