

For the estimation of nitrogen, 1.4 g of organic compound was digested by Kjeldahl method and the evolved ammonia was absorbed in 60 mL of M/10 sulphuric acid. The unreacted acid required 20 ml of M/10 sodium hydroxide for complete neutralization. The percentage of nitrogen in the compound is:

- A 3%
- B 5%
- C 6%
- D 10%

## Explanation

$$\% \text{ of } N = \frac{1.4 \times \text{meq. of acid}}{\text{mass of organic compound}}$$

$$\text{meq. of } H_2SO_4 = 60 \times \frac{M}{10} \times 2 = 12$$

$$\text{meq. of } NaOH = 20 \times \frac{M}{10} = 2$$

$$\therefore \text{meq. of acid consumed} = 12 - 2 = 10$$

$$\therefore \% N = \frac{1.4 \times 10}{1.4} = 10\%$$