

**Question 14:** 20 ml of 0.2 M NaOH (aq) solution is mixed with 35 ml of 0.1 M NaOH (aq) solution and the resultant solution is diluted to 100 ml. 40 ml of this diluted solution reacted with 10% impure sample of oxalic acid  $\text{H}_2\text{C}_2\text{O}_4$ . The weight of the impure sample is

**ANSWER: OPTION 1**

$$M_{\text{NaOH}} (\text{resultant}) = (20 \times 0.2 + 35 \times 0.1) / 100 \\ = 0.075\text{M}$$

Milli-equivalent of NaOH = Milli-equivalent of  $\text{H}_2\text{C}_2\text{O}_4$

Let weight of impure sample is X g.

$$40 \times 0.075 = (X \times 0.90) / 100 \times 2 \times 1000$$

**ANSWER= X=0.15g**