

E-6

Calculation: volume of  $\text{KMnO}_4$  from plot-2 = 3.8 mL

$$(N \times V) \text{ of steel sample solution} = (N \times V) \text{ of } \text{KMnO}_4$$

$$N \text{ of steel sample solution} = 0.05 \text{ N} \times \text{Volume of } \text{KMnO}_4 \text{ from Plot-2}$$

$$= \frac{20 \text{ mL of steel sample}}{9.5 \times 10^{-3}} \text{ N}$$

Amount of Fe present in 1 L of sample solution = Normality of steel sample  $\times$  At. wt. of Fe (55.85)

Amount of Fe present in given (100 ml) sample solution =  $\frac{\text{Normality of steel sample} \times 55.85 \times 100}{1000}$

$$= \frac{0.053 \times 55.85 \times 100}{1000} \text{ grams in 100 mL}$$

Result: The amount of Iron present in given steel sample is found to be = 0.053 grams.

Evaluation of Result:

Sample number	Experimental value	Actual Value	Percentage of error	Marks awarded

*[Signature]*  
21/05/19/22/2020