$x_i$ = An individual measurement.

N= Number of measurements.

### 1.7 Literature Survey for Determination of Esomeprazole

RP–HPLC method developed and validated for estimation of esomeprazole magnesium trihydrate and naproxen in synthetic mixture form. 50: 50 (v/v) ACN: Phosphate buffer was used as mobile phase, PH 7.0 and flow rate 0.5 ml /min using a phenomenex luna C18 column (5µm, 150mm×4.5mm), detection was at 300 nm, the method was linear in the concentration range of 50-250 µg/ml for naproxen and 2-10 µg/ml for esomeprazole with correlation coefficient of 0.9999 and 0.9998 respectively (Jain D.R., *et al*., 2011).

Another RP –HPLC method was developed and validated for quantitative determination of esomeprasole magnesium and its impurities in pharamaceutical dosage forms. BEH C18 (50mm×2.1mm, 1.7 µm) column was utilized. Mixture of ACN and milli Q water in the ratio 90:10 (v/v) respectively was the mobile phase . flow rate 0.2 ml /min and the detection wavelength 305 nm (Nalwade, S.U *et al*., 2011).

For determination of esomeprazole and domperidone in capsule formulation, a new HPLC method was developed and validated, it utilizes Thermo RP8 column (4.6×150mm and 3.5µm) and flow rate of 1 ml/min, mobile phase used 35 : 65 ,ACN : Phosphate buffer (Kumar S.T *et al*., 2011 ).

HPLC method was developed for the simultaneous determination of esomeprazole and domperidone in combined dosage forms. C18 phenomenex column was utilized, mobile phase component was acetate buffer: acetonitrile: methanol (55:35:10), detection