OBSERVATIONS:

Least count of meter scale = ……. cm

Emf of first cell using voltmeter, E_1 = ……. V

Emf of second cell using voltmeter, E_2 = ……. V

Ratio of emf of cells, $\frac{E_1}{E_2}$ = …….. (Standard Value)

Observation Table:

SN	Balanced length		Ratio of Emf of cells $\frac{E_1}{E_2} = \frac{l_1}{l_2}$	Mean ratio	Remarks
	When K_1 is closed l_1 (cm)	When K_2 is closed l_2 (cm)			
1.					
2.					
3.					
4.					
5.					

CALCULATIONS:

From above table the mean ratio of Emf of two cells: $\frac{E_1}{E_2}$ = ……. (Observed Value)

PERCENTAGE ERROR:

Standard value of ratio of Emf of cells (SV) = ……

Observed value of ratio of Emf of two cells (OV) = ……..

Therefore, $\% \, error = \left| \frac{SV - OV}{SV} \right| \times 100\%$

= ……

= …… %

RESULT:

The ratio of emf of two cells has been found to be ……. **:** …….. with ……. % error.

CONCLUSION:

The ratio of emf of given two cells has been compared by using a potentiometer.

SOURCES OF ERROR:

1. The area of cross section of wire may not be uniform.
2. The null point may not be located accurately.
3. The emf of cell may not be constant throughout the experiment.
4. The error may be due to carelessness of the experimenter.

PRECAUTIONS:

1. The circuit should be connected tightly and with great care.
2. Ammeter reading should be constant for a pair of observations of l_1 and l_2.
3. The jockey should be pressed gently.
4. The null point should be carefully identified.
5. The balanced length should be recorded with great care.

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