Laboratory Notebook Contents (Prereport and Postreport)

1. Prereport
   1 (1) Title
   1 (2) Purpose
   1 (3) Introduction (history, background, qualitative description)
   3 (4) Theory (model, assumptions)
   2 (5) Numerical estimates (check experiment feasibility, apparatus required)
   2 (6) Plan of Analysis (how to accomplish the Purpose from the given Theory)
   1 (7) References

2. Postreport
   1 (1) Experimental method
      1 (i) **Diagram** (define and label variables)
      4 (ii) **Method** (procedure for taking data, experimental conditions, special techniques and precautions)
   4 (2) Data (date, time, signature)*
      **Tables** (variable symbol, units, significant figures, uncertainties, equation at top of column for calculated values)

(3) Results
   2 (i) **Graphs** (title, variables, units, label scales, data point symbols, error bars, equation of best fit)
   2 (ii) **Tables**
   2 (iii) **Calculations** (equations, numbers with units, answers to correct number of significant features)
   2 (iv) **Error analysis** (propagation of errors)

(4) Discussion
   2 (i) **Comparison with theory** (model, accepted value)
   2 (ii) **Errors** (random and systematic error sources, major source of error)
   2 (iii) **Improvements** (model, experimental method, analysis of data)
   2 (iv) **Extensions** (additional experiments)
   (v) **Discussion questions**

1 (5) **Conclusion**
   Provides an answer to the Purpose

* Data is to be written directly into your notebook while performing the experiment. Your data must be initialed by the instructor or teaching assistant before leaving the laboratory.