




Guideline to Writing a Technical Report

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- The following notes provide a guideline to report writing, and more generally to writing a scientific article.
 - Even if your project did not go as well as you had hoped, there is no reason why you should not **score a high mark for your report** if you are prepared to work at it.38



■ Topics to be discussed by this presentation :

- 1. WHY A REPORT ?**
- 2. WHAT LEVEL?**
- 3. HOW MUCH DETAIL TO INCLUDE?**
- 4. THE NUTS AND BOLTS**

5. FORMAT OF REPORTS

5.1. FIRST PAGE

Cover Page Information (for SHORT and FULL report)

5.2. SECOND PAGE

The Abstract (for SHORT and FULL report)

5.3. THIRD PAGE

Table of Contents (for FULL report only)

List of Tables & Figures (for FULL report only)

List of Symbols/nomenclature (for SHORT and FULL report)

5.4. FOURTH PAGE AND ONWARDS

Objectives (for SHORT and FULL report)

Introduction & Theory (for FULL report only)

Experimental setup and procedure (for FULL report only)

Sample Calculation (for SHORT and FULL report)

Results and discussion (for SHORT and FULL report)

Summary and conclusion (for SHORT and FULL report)

Sources of Errors (if any) (for SHORT and FULL report)

References (for SHORT and FULL report)

6. A WORD ON REFERENCES

7. ASSESSMENT CRITERIA

8. DOING THE REPORT

Why a Report?

- The production of a good piece of technical writing for a project report is as much a part of the project as doing the experimental work. *However excellent and original a piece of work the project may be, unless the results can be communicated to other people it may as well not have been done!*
- Communicating results of an investigation in a clear and useful way is a key part of science and is the reason for devoting a lot of effort to this aspect.

What level?

- The main part of the report should be *comprehensible by other stage 3 students*. If more detailed information is to be included about some aspects (for instance, a complicated mathematical derivation, of which only the result is essential to the main discussion) consider including this as an appendix.

How much detail to include?

- It is not necessary, or even desirable; to describe every minute detail of what was done. *One of the most important aspects of good technical writing is to be concise, yet remain informative.*
- In view of this, the main part of your report should be restricted to *at most 4000 words*. This is an upper limit and not the length that is expected (a typical report would be 2000 words). An overlong report is liable to receive a lower mark than it otherwise deserves.



The Nuts and Bolts.

- Two copies of the report need to be submitted. Students who have worked in pairs must write and present independent reports, stressing those aspects of the project for which they were individually responsible.
- There has to be a mechanism by which the evaluator can distinguish between those who have worked and those who did not.

Format of reports.

- Whilst not mandatory, there are good reasons for the usual format of a report. Sections that you need to include are:
 - ☞ Title
 - ☞ Author(s)
 - ☞ Abstract
 - ☞ Table of contents
 - ☞ Introduction
 - ☞ Experimental techniques and methods
 - ☞ Sample Calculations
 - ☞ Results and discussion
 - ☞ Summary/conclusions
 - ☞ References
 - ☞ Appendices (if used)



First Page.

This should contain the following :

- **Institution Details.** This includes the university, faculty ...etc.
- **Lab, Course Name and Number.**
- **Title.** This should convey the area and scope of the project.
- **Name.** This should include the details of the person(s) who wrote the report. e.g. number, level, sectionetc.
- **Due Date.** This should be mentioned at the bottom of the page.

**Insert Your Course Name Here
(Course #)
Term Project/Home Work/Lab Report**



Faculty of Engineering and Technology
The University of Jordan, Amman-Jordan

Project Title Goes here (in black)

by

FirstName Initial LastName (ID #)
FirstName Initial LastName (ID #)

Section #:

May 2006



Second Page.

Abstract.

- The second page should consist only of the abstract.
- The idea of the abstract is to provide a brief summary of the report.
- The reader should be able to pick up from the abstract what was done, how it was undertaken and an indication of what was found out.
- An abstract should not review the report, but should rather act as a sampler of the contents of the report.
- Typically the abstract should be less than 200 words.



Third page.

This should comprise of the following :

- A **table of contents**, indicating the page numbers of the different sections.



Fourth page

This page should include the following :

- List of Tables.
- List of Figures.
- List of nomenclature/symbols.



Fifth page and onwards

Introduction.

- This is where you need to outline the underlying concepts (and if required a brief version of a any theory) needed to discuss the project.

Experimental Apparatus and procedure.

- Sufficient information must be provided on the apparatus and experimental procedure for the reader to understand what was done.

Data Observed and Sample Calculations.

- This a to show how the data observed during the experiment and a sample of the calculation steps of parameters. One sample is needed to demonstrate the validity of the calculation procedure.

Results and discussion.

- Present your results in a logical sequence, highlighting what is important and how the data you obtained have been analyzed to provide the results you discuss. You should discuss what you infer from the data. You need to adopt a critical approach.
- Make sure that all diagrams, graphs etc. are properly labeled and have a caption.
- *A neat hand drawn diagram is preferable to a poorly made computer diagram, or a poor resolution image copied from the web.*

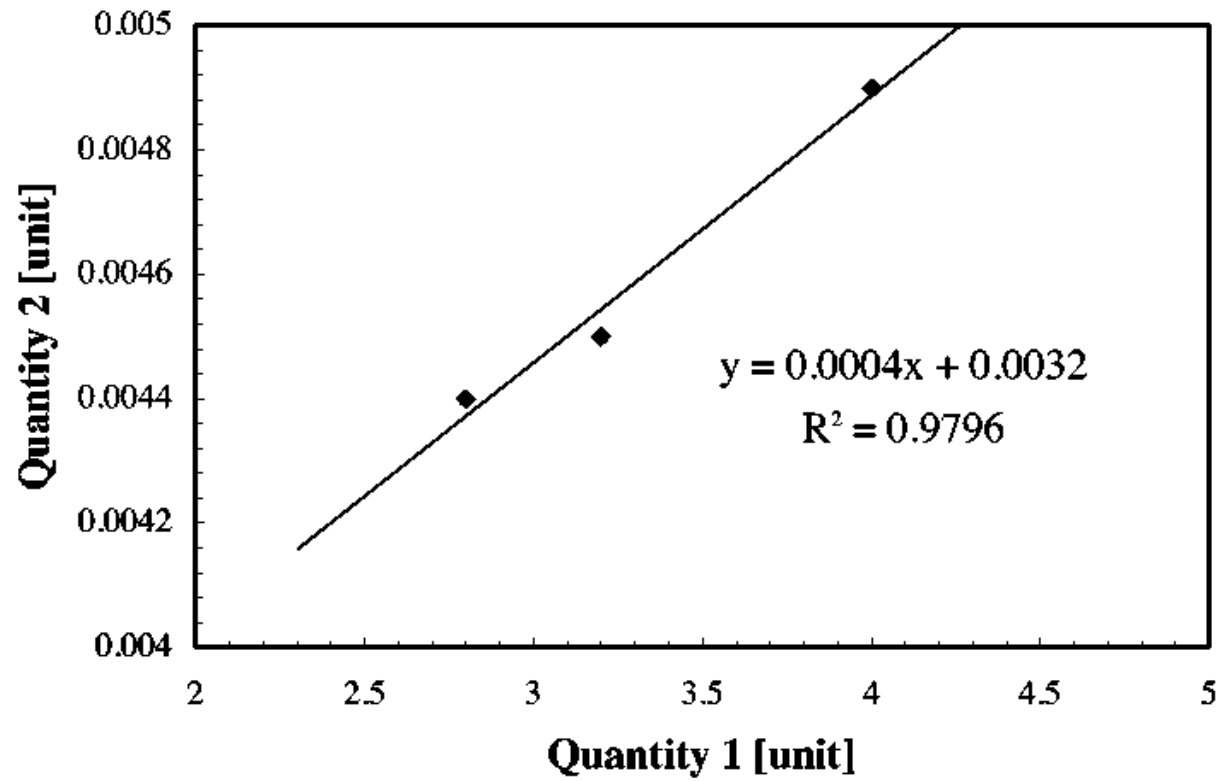


Figure 2 Quantity 1 versus Quantity 2

Table 2 Some numbers from the result of the experiment on nothing

Trial #	Quantity 1 [unit]	Quantity 2 [unit]
1	4.0	4.9×10^{-2}
2	3.2	4.5×10^{-2}
3	2.8	4.4×10^{-2}

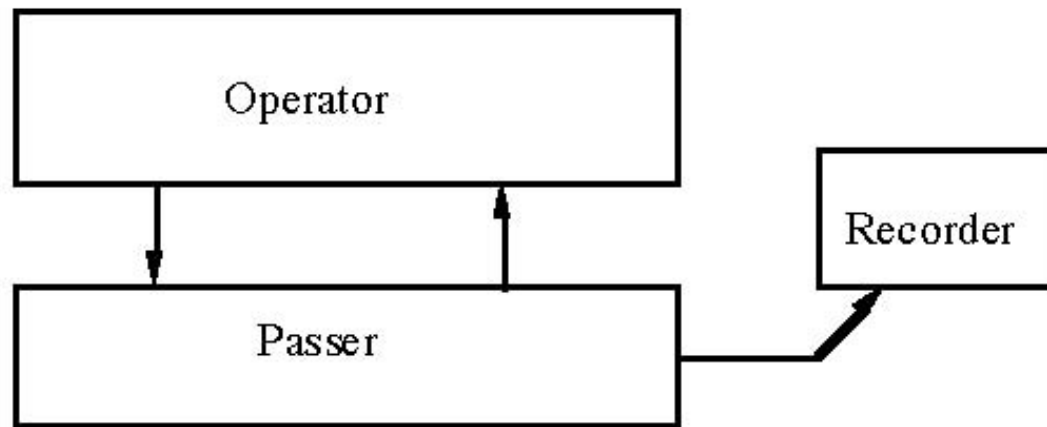


Figure 2 : Some numbers from the result of the experiment on nothing

.... *Contd.*

Summary and conclusion.

- This is the section in which you need to put it all together. It differs from the abstract in that,
- It should be more informative, something that can easily be accomplished because you may devote more words to it. You should include a concise version of your discussion, highlighting what you found out, what problems you had, and what might be done in the future to remedy them.
- You should also indicate how the investigation could usefully be continued.
- Pages, diagrams, references and tables must all be numbered.



A word on references

- These are very important. Your report should be sufficient to indicate to the reader what you have done, what you found out AND provide enough information for them to repeat the work if they so wished.
- By including a reference to the source others can check your work and reduce the time taken to make further advances.
- There are generally three types of reference according to the source, journal article, book, and web site.

Book

- you need to cite title, authors, date published, edition (if not first), City of publication and publisher. e.g. Elements of Nuclear Physics W. E. Burcham, (London) Longman, 1979.

A journal article,

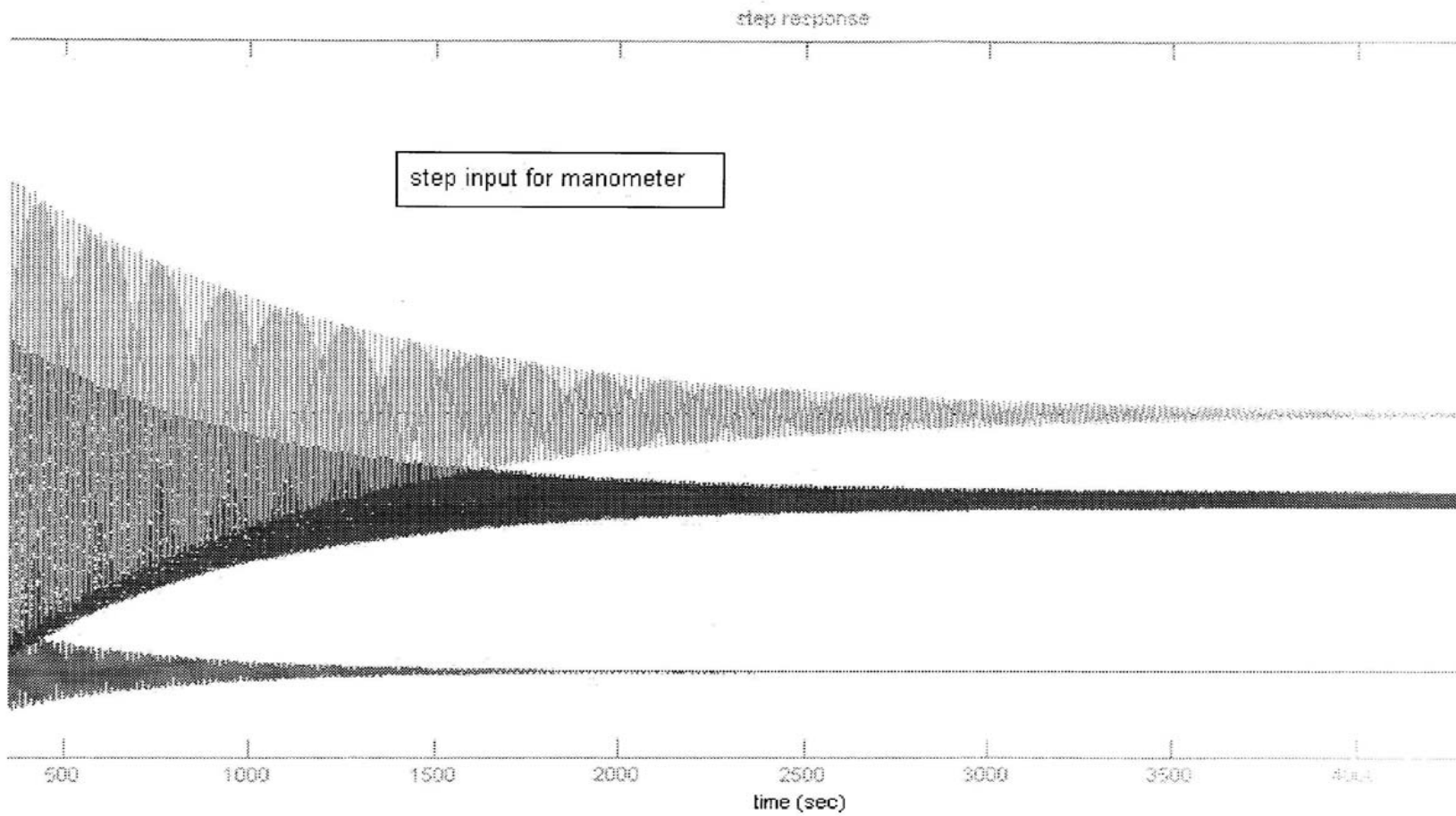
- The speed of light by interferometry A. Dixon, Journal of Light, vol. 3, pp. 123-234, 2003.

A web page,

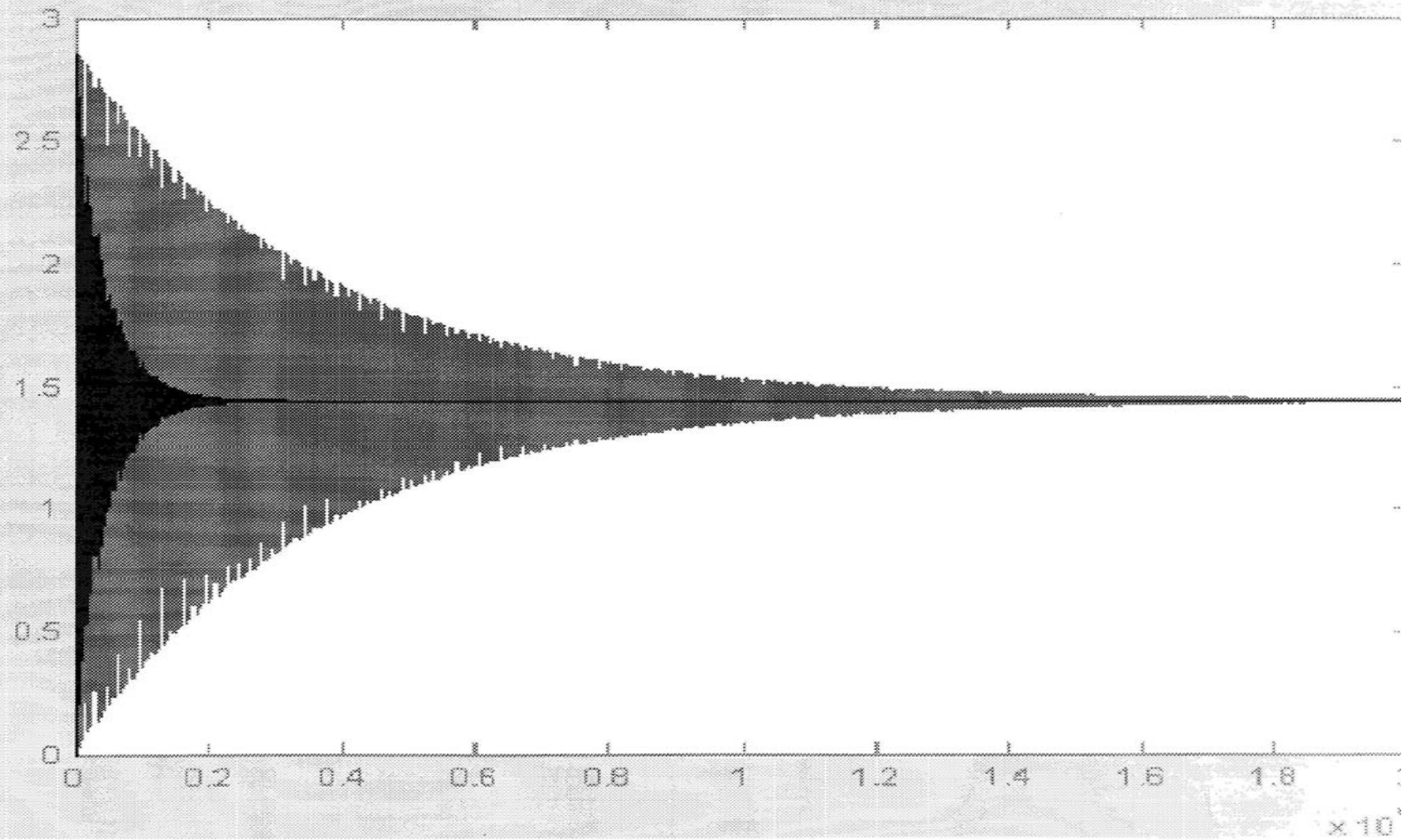
- <http://www.gobbeldygook.co.uk>

A word of caution on web based information. Journal articles and most books are peer reviewed. This means that other workers in the field have checked them for accuracy etc.. This is not true of web sites. Be careful in taking information from such sources and if at all possible verify the information by checking in books etc. You should also read the web information critically to see that it makes sense to you.

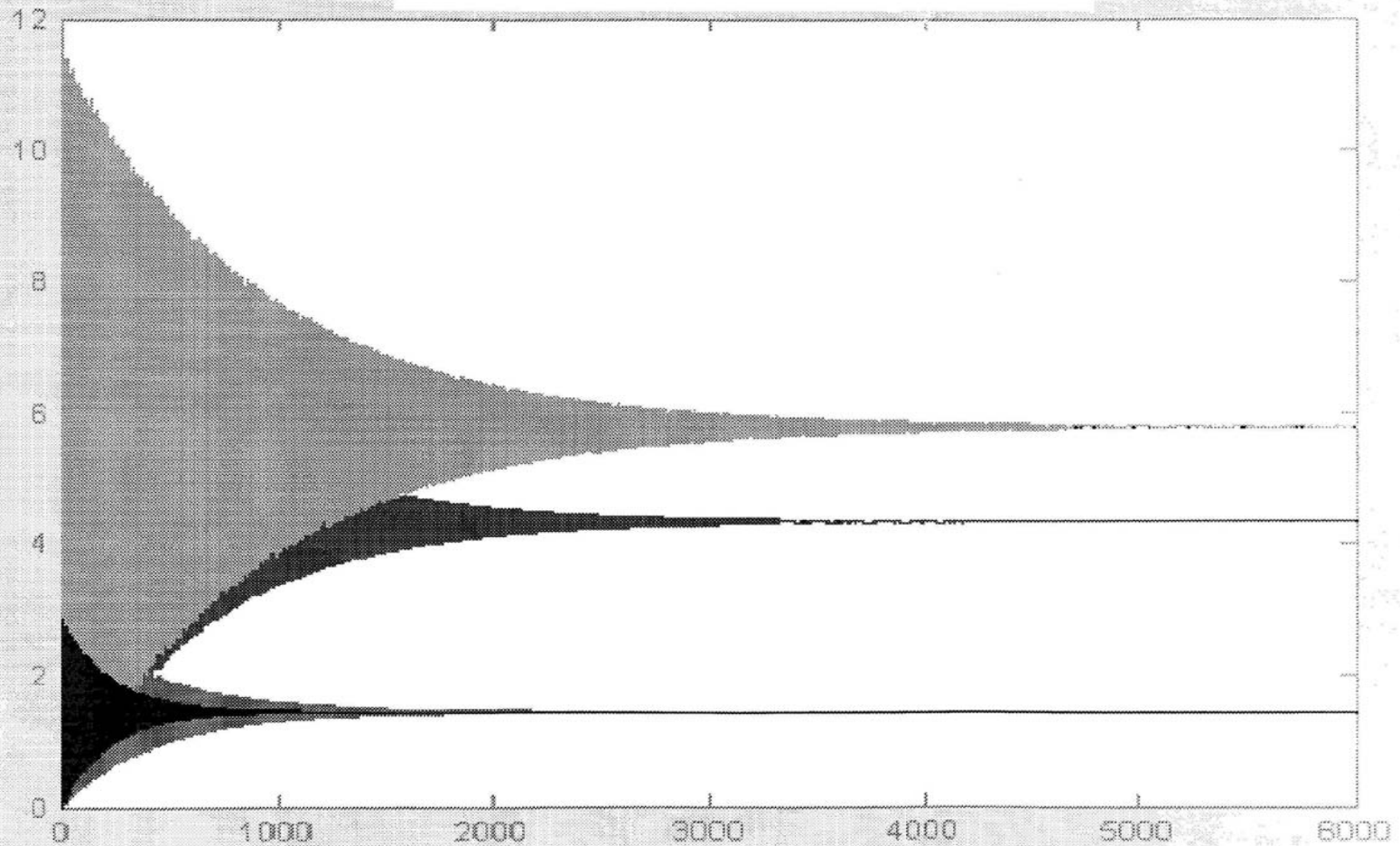
You are an engineer and should take pride in not being duped into making easy mistakes by faulty information.

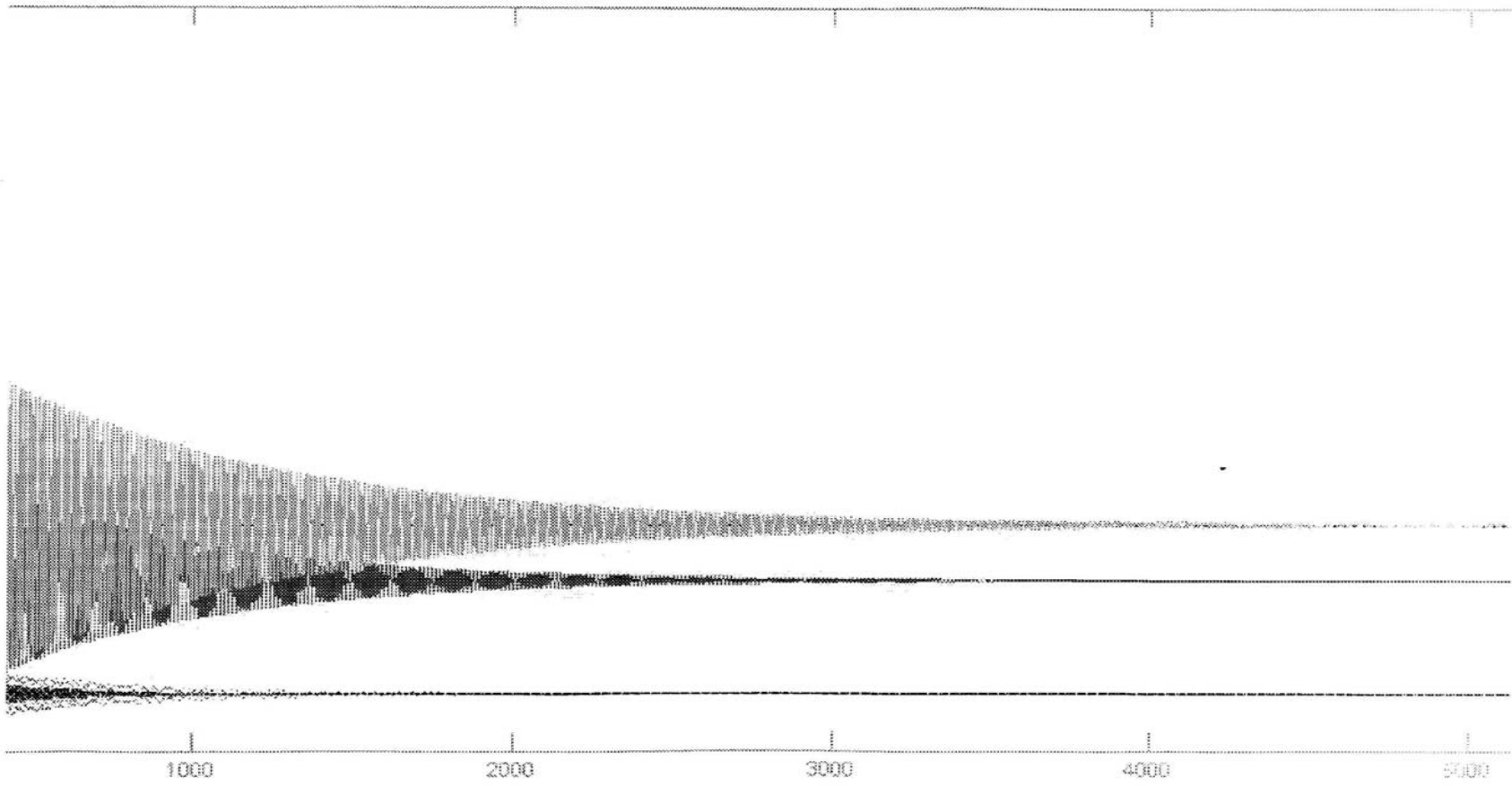


Part A



Part B 1

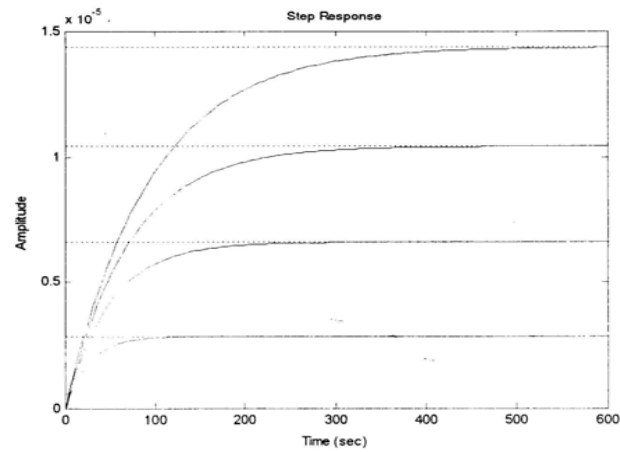




Project 1 PART (B)

⇒ By changing the values of R_b and J_c .

(S)



Name :

Reg# :

"

Project

