GUIDELINES FOR B. TECH PROJECT REPORT PREPARATION

For
Department of Electronics & Communication

Institute of Technology
University of kashmir

Zakura,Srinagar

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Introduction

This document is intended to provide a set of specific and uniform guidelines to the B. Tech ECE students in the preparation of the eighth semester project report. The content of the report, which is submitted to the Institute in partial fulfillment for the award of the degree of Bachelor of Technology, is very much important. It is also imperative that the report, to be acceptable by the Institute, should essentially meet a uniform format emphasizing readability, concordance with ethical standards and Institute-wide homogeneity.

CHAPTER 1
REPORT LAYOUT

The thesis has to be organised in the following order.

1. Cover Page
2. Inside Title Page
3. Certificate signed by the Supervisor(s) (in the stipulated format)
4. Declaration signed by the Candidate (in the stipulated format)
5. Acknowledgements
6. Abstract
7. Table of Contents
8. List of Figures
9. List of Tables
10. Abbreviations/ Notations/ Nomenclature (if any)
11. Text of the
    Report

    Chapter1:
    Chapter 2;……

    …..
    …..
12. References
13. Appendices (if any)
14. Non-paper materials (if any)

The formats to be followed for various headings are as follows

1. **COVER PAGE:** See sample sheet 1. The content, relative font size and locations of various items in the page should match with those given in sample sheet 1. All copies to be submitted to the various offices at IIST should be soft bound with white cardboard and black rexin in spine.

2. **INSIDE TITLE PAGE:** Same as that of cover page except but printed in bond paper as given in 2.3.

3. **CERTIFICATE:** See sample sheet 2. The content, relative font size and locations of various items in the page should match with those given in sample sheet 2.

4. **DECLARATION:** See sample sheet 3. The content, relative font size and locations of various items in the page should match with those given in sample sheet 3.

5. **ACKNOWLEDGEMENTS:** See sample sheet 4. Should not exceed two pages.

6. **ABSTRACT:** See sample sheet 5.

7. **TABLE OF CONTENTS:** See sample sheet 6.

8. **LIST OF FIGURES:** See sample sheet 7.

9. **LIST OF TABLES:** See sample sheet 8

10. **ABBREVIATIONS/ NOTATIONS/ NOMENCLATURE:** See sample sheet 9.

11. **CHAPTERS:** The chapters may have Introduction including literatures referred, Materials, Methods used, Results, Discussions and Conclusions.

11.1 Introduction The title of Chapter 1 shall be Introduction. It shall justify and highlight the problem posed, define the topic and explain the aim and scope of the work presented in the project report. It may also highlight the significant contributions from the investigation. The introduction can be supplemented by the generalised block diagram and an overview diagram of the model.

11.2 Review of Literature This shall normally form Chapter 2 and shall present a critical appraisal of the previous work published in the literature pertaining to the topic of the investigation. The extent and emphasis of the chapter shall depend on the nature of the investigation.

11.3 Report on the present investigation The reporting on the investigation shall be presented with subchapter chapter titles as follows.

11.3.1Problem Definition and proposed solution.

Briefly define the problem at stake and theoretically state the solution you propose for solving the problem.

11.3.2: Mechanical Design : This chapter shall encompass all the mechanical related design procedures in the projects amnd will include things like mechanical modelling, infrastructure design,case design etc

.The mechanical design includes various mechanical drawings of the mechanical components used in the project.preferably the CAD drawings.

11.3.3: Electrical Design: This chapter encompasses all the details pertaining to the power part of the project. Eg. Designing of the power supply , introduction of power efficient design elements.etc.The electrical Design includes various block and circuit diagrams of the modules and sub modules used.

11.3.4: Electronic Design: This chapter will contain all the details regarding the electronic sub modules used in the project. The details must be supported by the exploded block diagrams, circuit diagrams, simulation results, component details.etc.

11.3.5: Functional/Logical Design: This chapter encompasses all the functional and logical design elements used. The chapter can include the algorithms, truth tables, data flow diagrams, UMLs, Flow charts, State diagrams etc for making understand the flow of logic in the project.
This chapter also houses the software engineering part of the project.

11.3.6: Integrated Design: This chapter integrates all the prior designs together to make understand as how the whole project works and includes the integrated mechanical, electrical, electronic and functional design. The deliverables being the
(a) The exploded block Diagram of the whole project
(b) The circuit Diagram of the whole project.
(c) The CAD diagram of the whole project.

1. Due importance shall be given to experimental setups, procedures adopted, techniques developed, methodologies developed and adopted. • While important derivations/formulae should normally be presented in the text of these chapters, extensive and long treatments, copious details and tedious information, detailed results in tabular and graphical forms may be presented in Appendices. Representative data in table and figures may, however, be included in appropriate chapters. • Figures and tables should be presented immediately following their first mention in the text. Short tables and figures (say, less than half the writing area of the page) should be presented within the text, while large table and figures may be presented on separate pages. • Equations should form separate lines with appropriate paragraph separation above and below the equation line, with equation numbers flushed to the right.

11.4 Results and Discussions This shall form the penultimate chapter of the project report and shall include a thorough evaluation of the investigation carried out and bring out the contributions from the study.

The discussion shall logically lead to inferences and conclusions as well as scope for possible further future work.

11.5 Summary and Conclusions This will be the final chapter of the project report. A brief report of the work carried out shall form the first part of the Chapter. Conclusions derived from the logical analysis presented in the Results and Discussions Chapter shall be presented and clearly enumerated, each point stated separately. Scope for future work should be stated lucidly in the last part of the chapter.

12. **REFERENCES:** To be provided immediately after the last chapter.

See sample sheet 11.

13. **DATASHEETS OF ALL THE MAJOR COMPONENTS, MODULES USED IN THE PROJECT.**

The first three pages of the datasheets of all the component,IC's,modules etc may be kept attached.

14. **PERSONAL INFORMATION:The last page of the report should carry the photograph of each author of the book(Thesis) with email and contact details.**
NON-PAPER MATERIALS (if any)

CHAPTER 2
GENERAL GUIDELINES

2.1. Report Size

Report may contain maximum of about 100 pages including references and appendices.

2.2. Paper Size

Use A4 size paper (210 mm wide and 297 mm long).

2.3. Paper Quality

White bond paper weighing 85 g/m^2 or more should be used. Essentially the same quality of paper should be used throughout. Photographs or images with dense colors may be printed in single side on glossy paper.

2.4. Margins

A margin of 35 mm is to be provided on left and right sides, whereas top and bottom margins should be 30 mm. No print matter should appear in the margin except the page numbers. All page numbers should be centered inside the bottom margin, 20mm from the bottom edge of the paper.

2.5. Font

Times New Roman (TNR) 12 point font has to be used throughout the running text. The captions for tables and figures should have font size of 11 and foot notes should be set at font size 10. Font sizes for various levels of headings are given in section 2.7.

2.6. Line Spacing

The line spacing in the main text should be 1.5. Single line spacing should be given for quotations, abstract, figure captions, table captions, figure legends, footnotes, and references. The equations, tables, figures, and quotations should be set off from the main text both before and after with spacing of 1.5. Two consecutive paragraphs should be separated by triple line spacing.

2.7. Headings

Following format has to be followed in heading of chapters and sections.

CHAPTER 3

TITLE PAGE-CENTERED TNR 17-POINT BOLD ALL CAPS

3.1. Section Heading

Left aligned with number, TNR 17 points, bold and leading caps

3.1.1. Second level section heading

Left aligned with number, TNR 14 points, bold and sentence case.

3.1.1.1. Third level section heading

Left aligned with number, TNR 12 points, bold and sentence case.

Fourth-level section heading

Numbered subsections beyond third level are not recommended. However, fourth-level subsection headings may be included without numbering, TNR 12-point font, left aligned and italicized.

Running text should be set in 12-point TNR and fully justified. First line of paragraph should have indentation of 15 mm.

2.8. Table / Figure/equation Format

Tables, figures and equations shall be numbered chapter-wise. For example, second figure in Chapter 3 will be numbered Figure 3.2.

2.9. Citing References

Monika (2007) developed this method of ……… Subsequently other researchers have adopted this technique (Ramakrishna, 2009; Bhaskar, 2010).

2.10. Listing of the References

References are to be listed after last chapter. They are to be listed in alphabetical order and numbered. Within a reference the line spacing should be single. Each reference should be separated by one blank line. The reference number should be left aligned. The text of the reference should have an indentation of 10 mm. The reference format to be followed for journal articles, text books, conference proceedings etc. are given below.

2.10.1. Journals

1. Prakas, K. (2011). Feedback and optimal sensitivity: Model reference transformations, multiplicative seminorms, and approximate inverses. *IEEE Transactions on Automatic Control*, 26(2): 301–320.

2. Ram, R., Krishna, S. and Peter, K. (2005a). Risk sensitive estimation and a differential game. *IEEE Transactions on Automatic Control*, 39(9): 1914–1918.

3. Ram, R., Krishna, S. and Peter, K. (2005b). Differential rectification using control points. *IEEE Transactions on Geoscience and Remote sensing*, 55: 914 – 918.

4. Ram, R., Krishnamurthy, P., Prasad, N. and Peter, K. (2009). Risk sensitive estimation model II. *IEEE Transactions on Automatic Control*, 43(15): 355 - 363.

2.10.2. Text books

1.   Myers, D. G. (2007). *Psychology* (1st Canadian ed.). Worth: New York.

2.   Robin, R. (2008). *Robust Statistics*. Wiley-Interscience: New York.

2.10.3. Conference proceedings

1.   Payne, D.B. and Gunhold, H.G. (1986). Digital sundials and broadband technology, In *Proc. IOOC-ECOC,* 1986, pp. 557-998.

2.   Singh, K. and Robin, R. (2008). A linear- quadratic game approach to estimation and smoothing. In *American Control Conference,* New York. June 20 – 25, 2008, pp. 2818–2822.

2.10.4. Reports

1.   Milton, M and Robert, L. (2004). Atmospheric carbon emission through genetic algorithm, *Environment and Technical Report No.3.*, Indian Meteorological Department., New Delhi.

2.10.5. Online journals with a DOI (Digital Object Identifier)

1.   Krebs, D.L. and Denton, K. (2006). Explanatory limitations of cognitive-developmental approaches to morality. *Psychological Review,* 113(3): 672-675. doi: 10.1037/0033-295X.113.3.672

2.10.6. Online journals without a DOI

1.   Vicki, G.T., Thomae, M., Cullen, A. and Fernandez, H. (2007). Modeling the hydrological impact on Tropical Forests. *Forest Ecology,* 13(10): 122-132. Retrieved from http://www.uiowa.edu/~grpproc/crisp/crisp.html

2.10.7. Online abstracts

1.   Perilloux, C. and Buss, D.M. (2008). Human relationships: Costs experienced and coping strategies deployed. *Evolutionary Psychology,* 6(1): 164-181. Abstract retrieved from http://www.epjournal.net

2.10.8. Online books

1.   Perfect, T.J. and Schwartz, B. L. (Eds.) (2002). *Applied metacognition.* Retrieved from http://www.questia.com/read/107598848 (--If DOI is available, use the DOI instead of a URL)

2.10.9. Chapters from a book

1. Krebs, D.L. and Denton, K. (1997). Social illusions and self deception: The evolution of biases in person perception. In J. A. Simpson & D. T. Kenrick (Eds.), *Evolutionary social psychology* (pp.21-48). Hillsdale, NJ: Erlbaum.

2.10.10. Books in print form

1. Snyder, C.R., Higgins, R.L. and Stucky, R.J. (Eds.). (1983). *Excuses: Masquerades in search of grace*. New York, NY: John Wiley & Sons.

2.10.11. Dissertations and Thesis

1. Mack, S. (2000). "Desperate Optimism" M.S. Thesis, University of Calgary, Canada.

2.11. Page Numbering

Page numbers for the prefacing materials (Inside title page, dedication, certificate, declaration, acknowledgements, abstract, table of contents, etc.) of the thesis shall be in small Roman numerals and should be centered at the bottom of the pages. The numbering of the prefacing material starts from the Inside Title Page. However, the number is not printed on the Inside Title Page. Each new item of the prefacing materials listed above should start on a fresh paper on right page. If the content of the prefacing material exceeds one page, it has to be printed on both sides of the paper by starting from the right side page. For example, if the item „Table of Contents" extends for 5 pages, it should be printed in fresh paper on right side page with second page of the „Table of Contents" on the back of the paper and then continued. The page numbers of the prefacing material will be printed in small Roman numerals continuously counting blank pages also. However, the numbers are not printed on the blank pages.

The body of the thesis starting from Chapter 1 should be paginated in Arabic numerals and should be centered at the bottom of the pages. The pagination should start with the first page of Chapter 1 and should continue throughout rest of the thesis. Each side of a sheet of paper should be counted as a separate page, even if the back side of a sheet of paper is blank. The odd-numbered pages are always on the right and even-numbered pages are always on

the left. If the end of a chapter is in odd page (right side page) the next chapter should start on odd page i.e., on a fresh paper, and should be numbered as odd only by counting the blank even page also. However, the page number is not printed on the blank pages.

2.12. Printing

Printing of all material in general should be double –sided in black ink with exceptions as indicated in sections 2.3 and 2.11.

2.13. Non-Paper Material

A report may contain non-paper material, such as CDs and DVDs, if necessary. They have to be accommodated in a closed pocket in the back cover page of the thesis. The inclusion of non-paper materials must be indicated in the Table of Contents. All non-paper materials must have a label each clearly indicating the name of the candidate, student code number and the date of submission.

2.14. Binding

Thesis copies to be submitted for evaluation are to be soft bounded. The cover page should be printed on glossy white card of 300 g/m^2 or above.

2.15. Electronic Copy

An electronic version of the report should be submitted to the Head of the Department and the concerned faculty incharge of Internship-Project Planning and Coordination Committee (IPCC). The file name should contain student code number, name of the candidate and date of submission.

TITLE OF THE PROJECT REPORT TO BE SUBMITTED BY THE CANDIDATE

A Report submitted

in partial fulfillment for the Degree of

B. Tech

in

Electronics & Communication Engineering

by

NAME OF THE CANDIDATE(S)

pursued in

Department of Electrical & Electronics Engineering

To

INSTITUTE OF TECHNOLOGY
UNIVERSITY OF KASHMIR

ZAKURA CAMPUS,SRINAGAR
190006

MONTH, YEAR

This is to certify that the project report entitled <**Title of the project**> submitted by <**Name of the candidate>** to the Institute of Technology, Zakura , in partial fulfilment for the award of the degree of **B. Tech in (Electronics & Communication Engineering)** is a *bona fide* record of project work carried out by him/her under my/our supervision. The contents of this report, in full or in parts, have not been submitted to any other Institution or University for the award of any degree or diploma.

<Signature>   <Signature>

<Name of the supervisor>   <Name of the co-supervisor>
Supervisor   Co-Supervisor
Department of <Name of the   Department of <Name of the
department/Centre>   department Centre>

Srinagar   Counter signature of HOD with seal
<Month, year>

DECLARATION

I declare that this project report titled <**Title of the report>** submitted in partial fulfillment of the degree of **B. Tech in (Electronics & Communication engineering)** is a record of original work carried out by me under the supervision of <**Name(s) of the Supervisor(s)>**, and has not formed the basis for the award of any other degree or diploma, in this or any other Institution or University. In keeping with the ethical practice in reporting scientific information, due acknowledgements have been made wherever the findings of others have been cited.

<Signature>

<Name of the candidate>

<Student code number (SC01..)>

Srinagar-190006

<Date>

ACKNOWLEDGMENTS

All acknowledgements to be included here. Please restrict to **two pages**. The name of the candidate shall appear at the end, without signature.

I take this opportunity to thank Dr. G.M. Bhat, Director – IOT, and other faculty members who helped in preparing the guidelines etc etc etc….

I extend my sincere thanks to one and all of IOT family for the completion of this document on the project report format guidelines.

<Name of the Candidate>

ABSTRACT

Abstract of the report to be given here. Please restrict to a maximum of 300 words. NOTE: The abstract should not have any citations, or abbreviations, nor should it be divided into sections. It can be divided into adequate number of paragraphs as the author wishes. It is advisable to avoid any equations in the Abstract. Figures and tables are to be avoided.

Note that all paragraphs in the Abstract start with an indent of 15 mm, and there is no extra spacing between two successive paragraphs. The text should be Times New Roman font size 12, single spaced.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS/ NOTATIONS/ NOMENCLATURE

Utmost care should be taken by the project student while using technical abbreviations, notations and nomenclature.

The abbreviations should be listed in alphabetical order as shown below.

AFM   Atomic Force Microscopy

BBB   Blood Brain Barrier

CNT   Carbon Nanotube

The meaning of special symbols and notations used in the report should be explained.

|x| - absolute value of x

μ - mean

$\log_n(x)$ - logarithm (x) to the base n

Chemical nomenclature

NH_4^+ - ammonium

CH_4 - methane

OH^- - hydroxide

SO_4^{2-} - sulphate

Biological nomenclature

Soneratia apetalla   - saline tolerant species

Oryza sativa   - common rice

CHAPTER 1

INTRODUCTION

1.1. Green house gases

The green houses gases are receiving so much of attention these days from the scientific community. The careful management of these gases is a serious research problem. Recently, Attanas and Monica (2012) reported the hazards associated with the mismanagement of these gases. Table 1.1 lists the percentage distribution of the gases.

The studies related to the management of these systems need to follow a unified approach as suggested by earlier workers (Ram et al., 2005a; Ram et al., 2005b). However reports from Gurudeep and Mahin (2009) indicate the permissible level of green house gases[1].

Table 1.1 Title of the table (Times New Roman 11)

A[a]	B[b]	C	D

[a] A is admonishment coefficient of total population (Times New Roman 10)

[b] B is Bombardment coefficient of the mean population (Times New Roman 10)

1.1.1 Motivation of the study

Alarming rate of climate change, sea level rise and other natural disasters are to be managed efficiently. Assessment and management of green house gases thus become very much essential..

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[1] Adapted from Monika and Ram, 2008 (Times New Roman 10)

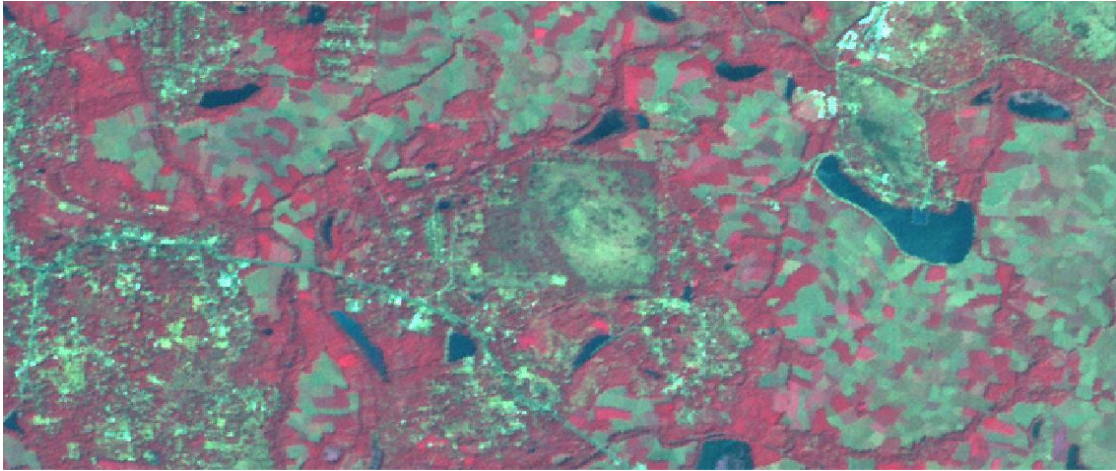The satellite image as given in Figure 1.1 shows the area from where samples are collected.

Figure 1.1 Title of the figure (Times New Roman 11)

REFERENCES

1. Attanas, D.B. and Monica, H.G. (2012). Effects of green house gases, In *Proc. IOOC-ECOC*, pp. 557-998.

2. Gurudeep, P.R. and Mahin, P. (2009). Risk sensitive estimation model II. *IEEE Transactions on Automatic Control*, 43 (15): 355 - 363.

3. Prakas, K. (2011). Feedback and optimal sensitivity: Model reference transformations, multiplicative seminorms, and approximate inverses. *IEEE Transactions on Automatic Control*, 26(2): 301–320

4. Ram, R., Krishna, S. and Peter, K. (2005a). Risk sensitive estimation and a differential game. *IEEE Transactions on Automatic Control*, 39(9): 1914– 1918.

5. Ram, R., Krishna, S and Peter, K. (2005b). Differential rectification using control points. *IEEE Transactions on Geoscience and Remote sensing*, 55: 914 – 918.

6. Singh, K. and Robin, R. (2008). A linear- quadratic game approach to estimation and smoothing. In *American Control Conference,* New York. June 20 – 25, 2008, pp. 2818–2822.