

Guidelines for Preparation of the Plan of Research

The plan of research shall indicate the research area to be taken up based on the thorough reviews and works carried out on the mentioned field that should clearly mention the methodology and approach to be adopted and the expected outcome of the research.

A plan of research can be prepared with the following outlines. Each of these has been briefly explained next. The plan of research shall be uploaded to the scholar's institute webpage. So this should go through a standard plagiarism check by submitting its report along with the plan of research.

Outlines

Cover Page

Certificate (By Supervisor)

Declaration (By Scholar)

Abstract

Table of Contents

Chapters (Numbered)

1. Introduction
2. Literature review (Method Comparison and Limitation)
3. Motivation and Objective (Research Problem)
4. Methodology and Approach
5. Present Work and Preliminary Results
6. Facilities & Budget *
7. Conclusions
8. Research Work Schedule (Time Frame)

Bibliography

* When these information are required to carry out further research work (e.g. consumables).

Page Layout

The plan of research should be prepared on a A4 size page layout in Times New Roman with a text font size of 12. The following spacing measurements and font sizes must be used in preparing the document.

Spacing Measurements and Font Sizes

- Page size: A4 (210 × 297 mm)
- Page margins: 30 mm (Left), 25 mm (Right), 25 mm (Top), 25 mm (Bottom)
- Text line spacing: 1.5 points
- Chapter font: Bold (size 16)
- Subchapter font: Bold (size 14)
- Figure caption: size 10, aligned left at the bottom of the figure after 2 points with line spacing of 1.5
- Subfigure caption: size 8, aligned center at the bottom of figure after 1.5 points
- Table caption: Small Caps (size 10), aligned center at the top of table before 2 points with line spacing of 1.5
- Bibliography: size 10.5
- Spacing between
 - Figures and text: 4.5 points
 - Tables and text: 4.5 points
 - Chapter heading and text: 4.5 points
 - Subchapter heading and text: 2.5 points
 - Text and subchapter: 4 points
 - Page number and bottom edge: 15 mm (center aligned) of size 8
- Second paragraph must be started after 40 mm from the left edge.
- Table row height (Top row may be adjusted based on the requirement): 5 mm
- Fonts inside figure: Times New Roman (6–8 size)
- Font inside table: Times New Roman (9 size)
- Table name style: **Table 2.3:** Table caption
- Figure name style: **Fig. 2.3:** Figure caption
- Equation name style: (chapter.equation number) e.g. (2.8) on the right side
- Table reference: Table 1, Table 2

- Figure reference: Fig. 2.3(b), Fig. 3.3
- Equation reference: (2.8) or Equation (2.8) (in case of start of a sentence)
- Referring multiple equations: \\ from (2.8) – (2.12) \\
- Referring website in text: In the footnote in *italic* font
- Algorithms: Between two horizontal straight lines with Algorithm name at top
- Footnote: Times New Roman of size 10 (Horizontal straight line over the footnote)

Cover Page

A cover page as given in Annexure-I with a Title that captures the essentials of the research work.

Certificate

A certificate to be given by only the principal supervisor for certifying the originality of the research work by the scholar on a format given in Annexure-II.

Declaration

A declaration of originality by the scholar on a format given in Annexure-III.

Abstract

An abstract with a comprehensive reflection of the plan of research between 250–400 words followed by 4 to 6 keywords or phrases.

Table of Contents

A table of the outlines mentioned above except the cover page by mentioning the start page number of each. (Roman numerals before table of contents) and (Numbers after it).

Chapters

All the chapters mentioned above preferably starts with separate page. More chapters may be added by numbering the chapters in a proper order. A time frame of the research work must be included at the end by clearly mentioning all the possible works to be carried out. All the chapters must be numbered serially and subchapters as chapter.subchapter (2.3). Appendix may be provided before bibliography but must not be numbered.

Bibliography

References of the cited documents should appear in a separate bibliography section at the end of the report, with items referred to by numerals in square brackets, e.g., [15].

Citing references inside report:

- Two references: [7], [8]
- Three or more: [9]–[14]
- Through name (single author): Verma
- Through name (multi author): Centurelli *et al.*
- Through name (patent): U.S. patent [15]
- The bibliography serial numbers must be left inclined

The references should be complete and in any one of the following style.

Style 1:

Journal

[1] F. Centurelli, A. Simonetti, A. Trifiletti, An improved common-mode feedback loop for the differential-difference amplifier, *Integration, Analog Integr Circ Sig Process* 74 (2013) 33–48.

Conference

[2] M. E. Sinangil, N. Verma, A. P. Chandrakasan, A reconfigurable 65nm SRAM achieving voltage scalability from 0.25–1.2 V and performance scalability from 20kHz–200MHz, in: *Proceedings of the IEEE Solid-State Circuits Conference*, 2008, pp. 282–285.

Book

[3] B. Razavi, *Design of Analog CMOS Integrated Circuits*, McGraw-Hill, 2001.

Website

[4] Berkeley predictive technology model website, <<http://www.eas.asu.edu>>.

Patent

[4] B. Gilbert, “Logarithmic Amplifier,” U.S. Patent 4990803, February 2012.

Benchmark/Data Set

[5] MIT DARPA Intrusion Detection Data Sets, <<http://www.ll.mit.edu/mission/data/data.html>>, 2012.

Style 2:

Journal

[1] S. Choi, K. Sohn, and H.-J. Yoo, “A 0.7 fJ/bit/search, 2.2-ns search time hybrid-type SRAM architecture,” *IEEE J. Solid-State Circuits*, vol. 40, no. 1, pp. 254–260, Jan. 2005.

Conference

[2] G. Thirugnanam, N. Vijaykrishnan, and M. J. Irwin, "A novel low power memory design," in *Proc. 14th Annu. IEEE ASIC/SOC Conf.*, 2001, pp. 198–202.

Book

[3] T. Kohonen, *Semiconductor Memories*, 2nd ed. New York: Springer-Verlag, 1987.

Website

[4] SoCLib, <http://www.soclib.fr/trac/dev>, 2003-2012.

Patent

[5] B. S. Nataraj, S. Khanna, and V. Srinivasan, "Decoupled 8T high speed SRAM memory cell," U.S. Patent 6 154 384, Nov. 28, 2000.

Benchmark/Data Set

[6] "MIT DARPA Intrusion Detection Data Sets," <http://www.ll.mit.edu/mission/corpora/ideval/data/1999data.html>, 2012.

Annexure I

**Title of the Plan of Research Indicating the
Research Work to be Carried Out**

Plan of Research for
Doctor of Philosophy
in
Department name

submitted by
Name of Scholar
Roll No: P14XX001

Under the Supervision of
Name of the Supervisor



Department of Department Name
National Institute of Technology Meghalaya
Laitumkhrah, Shillong-793003

Mar 2016

Annexure II



राष्ट्रीय प्रौद्योगिकी संस्थान मेघालय
NATIONAL INSTITUTE OF TECHNOLOGY MEGHALAYA
Bijni Complex, Laitumkrah, Shillong 793003

Prof./Dr. <Full Name of the supervisor>

Supervisor's Designation

April 04, 2016

Supervisor's Certificate

This is to certify that the work presented in the plan of research entitled “*Full title of the plan of research*”, Roll Number P14XX001, is a record of original review/ research carried out by him/her under my supervision and guidance in partial fulfilment of the requirements of the degree of *Doctor of Philosophy* in <Name of the Department>. Neither this report nor any part of it has been submitted for any degree or IPR in India or abroad.

<Supervisor's Signature>

<Supervisor's Name>

Declaration of Originality

I, <Name of scholar>, Roll Number P14XX001 hereby declare that this plan of research “*Title of the plan of research*” represents my original work carried out as a doctoral student of National Institute of Technology Meghalaya (NITM) and, to the best of my knowledge, it contains no material previously published or written by another person unless cited. Any contribution made to this research by others, with whom I have worked at NITM or elsewhere, is explicitly acknowledged in the plan. Works of other authors cited in this report have been duly acknowledged under the section “*Bibliography*”.

April 4, 2016

NITM

<Signature of the Scholar>

<Name of the Scholar>