

Guidelines for preparation of Thesis Report for Doctor of Philosophy

OBJECTIVE

A thesis is a permanent documental evidence of a research scholar's work and a valid record of the original research done by the scholar. It provides information on the scholar's research work to the future researchers. The objective of this document is to provide a set of guidelines that help a research scholar to prepare the thesis to satisfy the criteria of being a permanent and life time record.

FEATURES

- The final copy of the thesis has to contain all the modifications/corrections suggested by the examiners and the members of the Viva-Voce Board and is to be submitted after the scholar successfully defends the thesis in the viva-voce examination.
- The thesis has to contain a *copyright notice*.
- The thesis has to include a *declaration* by the scholar to the effect that he/she has not resorted to any unethical practice while carrying out the research work and preparing the thesis.
- The *contribution* (to knowledge) of the research scholar must be explicit in the Introduction chapter of the thesis.

I. GENERAL GUIDE LINES

- This thesis style be called as "Chhattisgarh Swami Vivekanand Technical University, manual of Style for Thesis Writing.
- This shall come into force with immediate effect.
- Ensure that the thesis meets all the standards of a scholarly writing. The entire work is divided into suitable chapters, sections, sub-sections.
- Ensure that objectives, review and scope, methodology, limitations of research, general conclusions, specific conclusions, specific contributions and future scope of work, applications areas of the proposed technique are clearly spelt out in the thesis.
- The thesis must be written in English and be word processed on single side of paper. The numbers of pages should not exceed 200.
- Ensure that all figures, tables have suitable numbers consistently followed throughout the thesis document. Be sure to provide appropriate **Caption** to each figure and **Heading** to each table and they are cited in the text in proper and suitable manner. Mention data sources below the Tables/Figures if any. Figures should be made as self-explanatory as possible.
- Format of quoting references, Caption of figures, Equation numbers, Heading of the tables should be followed consistently in the thesis.
- Use only standard abbreviations. Avoid abbreviations in the title. The full term for which an abbreviation stands should precede its first use in the text except in case of measurement units. The measurement units if any shall be followed consistently.
- Maintain uniformity in writing the Thesis.
- Theses are to be bound in Black coloured hard cover (after the Viva) with written materials in Golden script on the cover page of the thesis.

II. THESIS FORMAT

- Thesis Title Page (Outer Cover) as per the format given in Annexure I (should be printed in Golden colour on a black background) (Annexure – I)
- Thesis Title Page (Inner Cover) as per the format given in Annexure II (should be printed in Black on white background) (Annexure – II)
- Declaration by the candidate (Annexure – III)
- Certificate from Supervisor/s (Annexure – IV)
- Acknowledgements
- Abstract
- List of Tables
- List of Figures
- List of Abbreviations/Symbols
- Table of Contents (Annexure – V)
- Chapters

Note: Reprints of at least two important research papers published in journals and reprints of abstract of other research papers relevant to the topic of research to be attached as Annexure.

III COMPONENTS OF THESIS

Preliminary Pages

The preliminary pages must include the title page, the certificates, acknowledgements, abstract, List of Tables, List of Figures, List of Symbols and Table of Contents. Dedications should not be given. Pagination of such pages must be in Lowercase Roman script (i, ii, iii, iv etc.)

a) Title page

The title page must be printed exactly in accordance with the sample.

b) Certificates

Declaration from the candidate and the Certificate from the Supervisor and the Head of the Approved Research Center to be included as per the Annexure – III and Annexure - IV

c) Acknowledgements

Acknowledgements should be brief and should not exceed one page. Acknowledgements should be duly signed by the candidate. This should follow the title page and page containing the certificate from supervisor. Care should be taken to avoid the social obligations in this section. Gratitude may be expressed to only those who really contributed to the work directly or indirectly. If finance for the project came from any funding organization {Government, semi-Govt., Govt. undertaking, or NGO} or any individual (not parents), then the concerned organization or individual **MUST** be acknowledged. Name of scholar(s) should appear at the bottom of the page. The thesis should not be dedicated to anybody.

d) Abstract

The abstract should normally include the following information: (1) a statement of the problem/s, the research sets out to resolve; (2) the methodology used; (3) the major findings. It should not exceed two pages.

e) Table of Contents

Except the title page, certificates, acknowledgements and abstract, all other major divisions of the thesis/dissertation should be listed in the table of contents. These division and sub-divisions, if any, must agree in wording and style with the text.

f) List of Figures

This page should contain the list of figures with their captions and figures numbers. The caption and figure numbers must match with the body as has been cited in the text.

g) List of Tables

This page should contain the list of tables with their headings as mentioned in the main body of the thesis.

h) List of Abbreviations/Symbols/Glossary of terms

These pages are optional. If it is felt that the number of abbreviations, symbols and new terminologies are large in number, they may be put in these pages.

i) Text

The detailed organization of the text will vary with theses in different subjects, but a consistent style must be followed. In general, the text should be divided into the followings:

(i) Introduction, (ii) Review of Literature, (iii) Theoretical Analysis, (iv) Methods and Materials, (v) Results and Discussion, (vi) Summary & Conclusions, (vi) References, (vii) Appendices.

The text of the thesis may also include certain materials such as illustrations, tables, photographs, chemical and mathematical formulae and footnotes.

j) Tables

Tables should be self-explanatory. Headings and the column/row entries should be clearly related. Tables less than half a page should be preceded or followed by the text. Care should be taken to restrict the table in one page. In case the size of the table is more than one page, the headings of the columns must be mentioned in the continuing page/s also. All tables should be numbered with Arabic numerals, consecutively according to the chapter number throughout the thesis. The table numbers should start with the chapter number in which the table has been placed (Example: Tables in chapter 2 should bear the numbers like: 2.1, 2.2, 2.3 etc.) Table numbers with their headings should be at the top of the table.

k) Formulae/Equation/Expressions

Mathematical Formulae/Equation/Expressions should be carefully typed by using Equation Editor. They should not be included in text lines, but should be placed in the proper position with a tab from left margin and in between lines of text. They must bear a number started with the number of chapter in which placed (Example: Equation in chapter 5 should bear the numbers like 5.1, 5.2, 5.3 etc.). The equations numbers should be right aligned and are to be put within parenthesis preceded by three dots.

(Example:

$$(x + a)^n = \sum_{k=0}^n \binom{n}{k} x^k a^{n-k} \quad \dots (4.5)$$

l) Illustrations/Figures/Image/Photograph

Illustrations used in the thesis must appear in all the copies. Illustrative materials may be line drawings, photographs, graphs, block diagram, flowchart etc. Illustrations may be inserted wherever needed in the text, numbered in Arabic numerals typed on a thesis paper below the illustration. The illustrations must be prepared using computer or by a professional draftsman. The size of illustrations could be reduced photographically. The figure numbers should start with the chapter number in which the figure has been placed (Example: Figures in chapter 2 should bear the numbers like: 2.1, 2.2, 2.3 etc.). In case colour of the figure/illustration/image/photograph is important, colour prints may be added. All should be given figure numbers and no words like plate, sketch, image etc. should be used. Figure numbers with their captions should be below the figure.

m) Paper & Margin

The original thesis/dissertation as well as the photocopies should be prepared on a good quality white bond paper. The standard size of paper of a thesis is 21.5 cm (8½ inch) wide and 28 cm (11 inch) long. A margin of 3.75 cm (1½ inch) is to be given on the binding edge while on the other sides it is to be 2.5 cm (1 inch). The text of the thesis, including headings, figures, tables, and notes, but excluding page numbers, must be accommodated within the page area. Oversized figures and tables, if any, should be reduced to fit with the size of the thesis but the reduction should not be so drastic as to impair the clarity of their contents. One may also fold these pages to fit with the thesis size.

n) Typing

The preferred font size of the text in the thesis is 12 point, but in no case should it be less than 11-point. The minimum font size of materials within a table or a figure can be 8 point, however. The preferred font type is Times New Roman.

The line spacing in the main text must be between one-and-a-half and two. Single line spacing should be given for quotations, abstract, declaration, thesis approval, figure captions, table titles, figure legends, footnotes, and references.

The equations, tables, figures, and quotations should be set off from the main text with adequate space (not less than the normal line spacing adopted for the main text).

Two consecutive paragraphs should be separated by a spacing which must be larger than the line spacing adopted for the text.

The heading of an article to be typed in a font size which is two scale larger than the font size of the text (*Font size must be 14 if the font size of the text is 12*) with all Uppercase Letters whereas sub articles should be in a font size which is one scale larger than the font size of the text in small caps style (Ex.: *Format for the Thesis*). Normally the thesis is to be typed in black ink.

o) Pagination

Page numbers for the prefacing materials of the thesis shall be in small Roman numerals and should be centered at the bottom of the pages. Page numbers for the body of the thesis should

be in Arabic numerals and should be put as footer on the right bottom corner of each page with the same font and same size of the text. The pagination should start with the first page of Chapter 1 and should continue throughout the text (including tables, figures, and appendices). Suppress the page number in first page of each chapter.

p) Copyright Notice

The copyright notice shall consist of the following:

- The encircled symbol “C” ©
- The year of the award of the degree
- The name of the owner of the copyright
- The words “All rights reserved”

Example: © 2008 Anand K. Pal. All rights reserved.

IV ABOUT THE CHAPTERS

a) Introduction

A scholar should explain briefly the purpose of study of the problem involved, justifications for research work, scope of the study and its limitation. The chapter should generally end with the organization of the thesis and specific objectives of the research work. It should be brief, precise and pertinent to the research work undertaken. It should be limited to **Five** pages.

b) Review of Literature

This should include brief history and present status of the problem as evidenced by documented literature on similar or closely related problem. The findings of various investigators should be critically examined and interpreted in the light of objectives of the thesis problem. Relevant references should only be cited by mentioning the last names of the authors and year of publication within the parenthesis. In case of more than Two authors, only the last name of the first author followed by et al. (*Please do not put a dot after et since the full form of et al. is et alli, i.e., and others*) should be used. The source of information could be given as footnote at the bottom of the page on which matter is initiated for unpublished reference.

Examples:

Morphometric analysis was for watershed characterization and prioritization (Chalam et al., 1996; Pandey et al., 2004; Dabral and Pansey, 2007).

Corresponding references should be written in the Reference Section as follows:

Chalam, B.N.S., Krishnaveni, M. and Karmegan, M. 1996. *Correlation of runoff with geomorphic parameters*. Journal of Applied Hydrology. 1(3): 24-31.

Pandey, A., Chowdary, V.M. and Mal, B.C. 2004. *Morphological Analysis and Watershed Management using Geographic Information System*. Hydrology Journal. 27:71-84.

Past tense should be used for citing references. For example, it is often written as, "Pandey and Kumar (1995) have demonstrated that ...". This is not correct. When the year (1995) is mentioned, it is no more present perfect tense but past indefinite tense. Therefore, the correct form is, "Pandey and Kumar (1995) demonstrated that ...".

c) Theoretical Analysis

Mathematical techniques adopted for analysis of the problem should be clearly spelled out. In case of the use of software tools the corresponding algorithms should be suitably

indicated with the help of annexure. Detail coding of the programmes developed need not to be included in the thesis.

d) Methods and Materials

This part of the thesis should present the variables, techniques and materials involved in the study. The details of techniques and equipment employed in the investigation should be clearly stated. In the case of special experimental setups, their fabrication details, assembly component details and theoretical consideration to design/proof/theory should be described. Past tense should be used to write this chapter.

e) Results and Discussions

Under this, the data from experiments/investigations should be presented in compiled tabulated form augmented with graphical of specific trend or behaviors of different variables or important observations made. Results may be divided into various sub heads. In presentation, care should be taken to avoid repetition. Outstanding points which are important in the table or graph should be indicated. The level of significance should be indicated by certain symbols in footnotes to the table. If prediction equation is required, it should be developed and presented.

Discussion section should consider implications of the experiment. It should present the perceptiveness and creativity of the researcher and writer and his final comments. It may also contain a comparative view of the already adopted methods and the developed method by the researcher.

The discussion section ties the result of the study to both theory and application by pulling together the theoretical background, literature review, potential significance for application and results of the study. One important function of discussion section is to summarize the findings of the study in the form of conclusions. If the study has been set up to test specific hypothesis along with ancillary findings, it should be integrated and interpreted. Discussion should be related to objectives and assumptions made at the start of experiment. Attempt to prove or substantiate a point should be considered and findings of earlier worker should be cited. The explanation should be based on work done by other workers or author himself giving over all conclusion of the study.

Note: While referring a table or a figure, it is often written as, "Fig.5.2 gives the relationship between X and Y. It is seen from the Fig. 5.2 that" and so on.

Better way of writing is, "The relationship between X and Y is presented in Fig. 5.2. It can be seen from the above figure that....."

OR "The relationship between X and Y is presented in Fig. 5.2. It can be seen from Fig. 5.2 that....."

Definite article "the" should not be used when the figure or table number is mentioned. Present tense should be used for results and discussion. However, earlier findings to substantiate the results of the present study should be quoted in past tense.

f) Summary & Conclusions

The Summary should include the gist of the work carried out. It should display the salient features of the work. The conclusions should be explicit and may as well include the suggestion for further work in the area. The conclusions should be drawn in conformity with the objectives. The order of conclusion should be same as the order of the objectives listed.

g) References

References to journal papers should contain the *name of the author(s) (with last name appearing first), year of publication, title of the paper, name of the journal, volume number, issue number, particular pages (pp).*

The specific format is: <Last name of first author>.<First letter/s of First author>.<Last name of second author>.<First letter/s of second author>. <year of publication>. <Title of the research paper in italics with the first letter of the words in upper case and rest in lower case except in cases of pronouns, conjunction, prepositions etc.>. <Name of the journal>. <Volume>. <issue number if any to be put within parenthesis>: <particular pages>.

Similarly conference papers should mention the *name of author(s), year of the conference, title of the paper, name of the conference, place in which the conference was held* along with *the page numbers of the paper in the proceedings* of the conference.

References to books should contain *name of the author, year of publication. title of the book, name of the publisher, edition number, chapter number and ISBN Number* also can be quoted.

The style in which the references are to be quoted in the text is shown in Annexure-VI.

In citation from website, the date of last browsing must be included.

Annexure – I (Outer cover)

**THE TITLE OF THE THESIS IN THE INNER COVER SHALL
LOOK EXACTLY LIKE THIS TITLE**

(Font: Times New Roman, Size:16, Bold, Line Spacing: 1 ½, Centered)

{Here put a gap of 4 lines}

Thesis submitted to

(Font: Times New Roman, Size: 12, Bold, centered)

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<University's logo>

**Chhattisgarh Swami Vivekanand Technical University
Bhilai (India)**

(Font: Times New Roman, Size: 14, Bold, centered)

{Here put a gap of one line}

**For award of the degree
of**

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DOCTOR OF PHILOSOPHY

(Font: Times New Roman, Size: 14, Bold, centered)

{Here put a gap of one line}

in

(Font: Times New Roman, Size: 14, Bold, centered)

{Here put a gap of one line}

<Name of the Faculty>

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by

(Font: Times New Roman, Size: 12, Bold, centered)

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< Name of the Scholar>

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Enrollment No.: < >

(Font: Times New Roman, Size: 12, Bold, centered)

<Month><Year>

(Font: Times New Roman, Size: 12, Bold, centered)

© <Year> <Name of the Scholar>. All rights reserved.

(Font: Times New Roman, Size: 10, Bold, Centered)

Annexure – II (Inner cover)

**THE TITLE OF THE THESIS IN THE INNER COVER SHALL
LOOK EXACTLY LIKE THIS TITLE**

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in

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<Name of the Faculty>

(Font: Times New Roman, Size: 14, Bold, centered)

{Here put a gap of two lines}

by

(Font: Times New Roman, Size: 12, Bold, centered)

{Here put a gap of two lines}

< Name of the Scholar>

(Font: Times New Roman, Size: 14, Bold, centered)

Under the Guidance of

(Font: Times New Roman, Size: 12, Bold, centered)

<Name of the Supervisor/s>

(Font: Times New Roman, Size: 14, Bold, centered)

<Month><Year>

(Font: Times New Roman, Size: 12, Bold, centered)

© **<Year> <Name of the Scholar>. All rights reserved.**

(Font: Times New Roman, Size: 10, Bold, Centered)

DECLARATION BY THE SCHOLAR

I the undersigned solemnly declare that the report of the thesis work entitled **<Title of the Thesis>** is based on my own work carried out during the course of my study under the supervision of **<Name of the supervisor/s>**.

I assert that the statements made and conclusions drawn are an outcome of my research work. I further certify that

- i. The work contained in the thesis is original and has been done by me under the general supervision of my supervisor(s).
- ii. The work has not been submitted to any other Institute for any other degree/diploma/certificate in this University or any other University of India or abroad.
- iii. I have followed the guidelines provided by the University in writing the thesis.
- iv. I have conformed to the norms and guidelines given in the concerned Ordinance of the University.
- v. Whenever I have used materials (data, theoretical analysis, and text) from other sources, I have given due credit to them by citing them in the text of the thesis and giving their details in the references.
- vi. Whenever I have quoted written materials from other sources, I have put them under quotation marks and given due credit to the sources by citing them and giving required details in the references.

(Signature of the Scholar)
Name of the Scholar
Enrollment No.:

Annexure - IV

CERTIFICATE FROM THE SUPERVISOR/S

This is to certify that the work incorporated in the thesis entitled **<Title of the Thesis>** is a record of research work carried out by **<Name of the scholar>** bearing Enrollment No.: under my/our guidance and supervision for the award of Degree of Doctor of Philosophy in the faculty of **<Name of the faculty>** of Chhattisgarh Swami Vivekanand Technical University, Bhilai, Chhattisgarh, India.

To the best of my/our knowledge and belief the thesis

- i)* Embodies the work of the candidate him/herself,
- ii)* Has duly been completed,
- iii)* Fulfils the requirement of the Ordinance relating to the PhD degree of the University and
- iv)* Is up to the desired standard both in respect of contents and language for being referred to the examiners.

(Signature of the Supervisor)
Supervisor)
(Name of the Supervisor)

(Signature of the Supervisor)
(Name of the Supervisor)

(Signature of the Supervisor)
(Name of the Supervisor)

Forwarded to Chhattisgarh Swami Vivekanand Technical University, Bhilai

(Signature of the Head of the Approved Research Center)

(Seal of the Research Center)

Annexure -VI

Citation from Thesis:

- Kundur. D. 1999. *Multiresolution Digital Watermarking: Algorithms and Implications for Multimedia Signals*. Ph.D. Thesis, University of Toronto.

Citation from Journal:

- Clifford. G. D. and Tarassenko. L. 2001. *One-pass Training of Optimal Architecture Auto-associative Neural Network for Detecting Ectopic Beats*. *Electron Letters*. 37(18): 1126–1127.
- Burattini. B., Gnudi. G., Westerhof. N. and Fioretti. S. 1987. *Total Systemic Arterial Compliance and Aortic Characteristic Impedance in the Dog as a Function of Pressure: A Model Based Study*. *Computational Biomedical Research*. 20: 154–165.
- Amutabi. M. N. & Oketch. M. O. 2003. Experimenting in Distance Education: *The African Virtual University (AVU) and the Paradox of the World Bank in Kenya*. *International Journal of Educational Development*. 23(1): 57-73.

Citation from Books:

- Thompson. D. ed., 1995. *The Concise Oxford Dictionary of Current English*. Oxford, UK: Oxford University Press, 9th ed. ISBN No.: 0987654.
- Lindsay. D. 1999. *A Guide to Scientific Writing*, Melbourne, Chapter 2, Australia: Addison Wesley Longman Australia, 2nd ed. ISBN No.: 12345678.
- White. H. Grover. S. K. Jonathan. M. 1993. *Economic Prediction using Neural Networks: The case of IBM Daily Stock Returns*. *Neural Networks in Finance and Investing*, Ch. 18. pp. 315–328. Probus Publishing Company, ISBN No.: 987789987.

Citation from Website:

- Anonymous, unZign, “Tool for Evaluating a Variety of Watermarks”, <http://altern.org/watermark/>, (Browsing date: 23rd September 1997)
- Publication of the University of Geneva (on digital watermarking): <http://cuiwww.unige.ch/~vision/Publications/watermarking_publications.html> (Browsing Date: 4th January 2006)

Common Abbreviations those can be used while referencing:

J.	Journal
Sc.	Science
Tech.	Technology
Trans.	Transactions
Ch.	Chapter
ed.	Editor
Jan.	January
Feb.	February
Mar.	March
Apr.	April
Jun.	June
Jul.	July
Aug.	August
Sept.	September
Oct.	October
Nov.	November
Dec.	December
et al.	And others