

## **Guidelines for format of Thesis submission**

**1) Submission for Evaluation (Initial Submission)** 6 (six) soft bound (spiral) copies of the *Thesis* have to be submitted within 6 months from the date of submission of the synopsis, the Research Scholar will submit a soft copy of the thesis in PDF on CD/DVD to the Controller of Examination, Gujarat Technological University through Supervisor or, in the case of Independent Research Scholar, through the Doctoral Progress Committee.

**2) Submission for Record (Final Submission)** If the *Thesis* is recommended for final submission, the research scholar will have to submit hard bound copies as per the following to the Controller of Examination, Gujarat Technological University through Supervisor or, in the case of Independent Research Scholar, through the Doctoral Progress Committee after incorporation of corrections recommended by the examiners.

Copies of the final thesis to be submitted are as follows:

- University Library
- Copies to the Supervisor(s) / Co-supervisor(s).
- INFLIBNET Centre (soft copy as per the given format; kindly refer to <http://shodhganga.inflibnet.ac.in:8080/jspui/manual/index.html#q9>, <http://shodhganga.inflibnet.ac.in/moredetails/newmoredetails/dataformat.html>, <http://shodhganga.inflibnet.ac.in/ebook>)
- Copy to the Institute where the candidate has performed research work.

Along with the hard copies, two CD/DVDs shall be submitted:

- 1) one CD/ DVD including Metadata Sheet & Splitted Thesis as mentioned in the attached file.
- 2) one CD/ DVD including Full Thesis & Synopsis

### **3) Presentation Sequence**

Fly page (2 Blank Pages)

Cover and Title Page

Copy Right

Declaration Page

Certificate(s)

Originality Report Certificate

Non Exclusive License Certificate

Thesis Approval Form

Abstract

Acknowledgement and / or Dedication Page (Optional)

Table of Contents

List of abbreviations (Optional)

List of Symbols

List of Figures  
List of Tables  
List of Appendices  
Thesis Body (Chapters)  
List of References  
Bibliography (Optional)  
List of Publications  
Fly Pages (2 Blank Pages)

### **Cover and Title Pages:**

The general format of a sample title/cover page has been given at the end of this document. In general, the cover/title page shall contain the following details:

- Full thesis title in (18 points) size font properly centered and positioned at the top portion.
- Full name of the Research Scholar in 16 point font size properly centered at the middle of the page. In case of title page and cover page, this shall be followed by the name(s) of the supervisor(s) in a separate line.
- A 30 mm diameter GTU emblem followed by the full name of the University and the year of submission, each in a separate line properly centered with 18 point font size and located at the bottom of the page shall be placed.
- The cover shall have printing on its side the name of the Research Scholar, thesis title and year of submission in this order. If required, short name, thesis title etc. and reduced font size may be used for this purpose.
- All lettering in the cover page shall be embossed in Golden colour.
- A monochrome (black text on white paper) print out is to be used for the title page.

(Annexure – I)

On the back side of the title page the copy right statement (Annexure-II) should be placed at the center of the page.

**Declaration:** Signed declaration sheet as given at Annexure – III is required to be included in the thesis.

**Certificate(s):** As per Annexure – IV, V

**Non Exclusive Certificate:** As per Annexure – VI

**Thesis Approval Form:** As per Annexure – VII

**Abstract:** The abstract should be a concise description of the problem(s) addressed, method of solving, findings, and conclusions all in one place. As such, it shall highlight the important features of the thesis. It should be able to help the readers to quickly ascertain the purpose of the thesis. An abstract is a self-contained, short, and powerful statement that describes the entire work. It must be self-contained without any references. As per Annexure – VIII.

**Acknowledgement and / or Dedication (Optional):** This part(s) of the thesis has no specific format. If the Research Scholar desires to acknowledge his / her thesis, he / she may include the same. As per Annexure - IX

**Table of Contents:** This section of the thesis shall list all materials that follow it. It shall enlist titles of the chapters, sections, and subsections including reference and appendices (if any) using decimal notations (as in text), with corresponding page numbers against them flushed to the right. As per Annexure – X.

**List of abbreviations (Optional):** If a large number of abbreviations are used in the thesis, which may be unfamiliar to a reader, a list of abbreviations may be useful. As per Annexure – XI

**List of Symbols, Figures & Tables, etc.:** Symbols, Figures & Table etc. shall be listed separately. List of symbols typically shall contain two columns – symbol and brief description / definition. Similarly, the list of Figures / Tables shall also contain two columns – Figure / Table no. and its caption. As per Annexure – XII, XIII, XIV

**List of Appendices:** Appendices may include the formulas, diagrams, protocols or any similar data that are not contained in the thesis body. The number can be given as A-1, A-2.... and listed as such in the list of Appendices. As per Annexure – XV

**List of References:** As per Annexure – XVII (it is XII)

**List of Publications:** As per Annexure – XIX

**Thesis Body:** Organization of Thesis Body: The thesis shall be organized in a number of chapters, starting with a general introduction leading to your work followed by literature review and ending with a general discussion and conclusion of your work. A thesis must be an integrated whole of the

research work and each of the other chapter should be presented in a coherent and logical way. As such each of the other chapters shall have precise title reflecting content best. A chapter can be subdivided into sections, sub-sections, etc and so on as to present the content discretely with due emphasis. As per Annexure – XVI

### **Layout of Chapter:**

**Introduction:** Title of the first chapter shall be the Introduction. It shall start with a brief history of the reported work. It shall justify the pros and cons of the present problems posed, and set the aim and scope of his/her work which shall mitigate the present problems. It may end up with highlights of the significant contributions of the present work.

**Literature Review:** Second chapter shall be on Review of the Literature. However, its title can vary from author to author without losing its true spirit. It shall present a review of the state of the work till date which naturally leads to the present topic of investigation. While there is no end to present such a review, the extent and emphasis should be limited to the extent which is relevant to the nature of investigation only.

**Report on the Present Research:** The work, conclusion and contributions from the research are presented in this portion of the thesis in a number of chapters. The exact structure in these chapters will depend on the nature of research (theoretical or experimental) carried out. However, the following general guidelines shall be followed:

- When reporting theoretical work that is not original, you will usually need to include sufficient material to allow the reader to understand the arguments used and their physical bases. But do not reproduce pages of text that the reader can find in a standard text book; only refer such works and concentrate on the physical arguments leading to your theory. Furthermore, do not include any theory that you are not going to relate to the work you have done.
- Clearly describe the experimental (if any) setup, procedure/technique adopted, methodologies developed and adopted.

**Results and Discussions:** Whether the work is experimental or theoretical, this is a vital part of the thesis. Depending upon the nature of investigations, a separate chapter (last but one) with title “Results and Discussions” may be presented for summarizing your results and highlighting their implications. Typically, a thesis on the findings on a single but broader aspect of a composite

problem shall contain this chapter. For distributed findings, however, this can be presented as the subsections of the relevant chapters towards the end.

**Conclusions, Major Contributions and Scope of Further Work:** This will be the last chapter of the thesis. A brief summary of the entire work carried out shall form the first paragraph. Conclusions derived from the presented work and its results shall be clearly specified. Conclusion should relate only to your own work. Any generalized, known outcomes should not be mentioned.

Your thesis must highlight the practical implications of your work to the society, in the form of major contributions. Finally all possible future avenues to continue where you have stopped may be mentioned under future work.

**Reference Citation:** All cited literature must appear in the list of references and numbered sequentially as they are referred in the text of the thesis in standard format of referencing (Annexure – XVII). All particular works consulted but not specifically cited should be listed as Bibliography which shall appear after the References. Cited materials shall be listed chapter-wise and at the end of the concerned chapter. A citation repeated in more than one chapter shall be given same number.

**Publications & Patents by the Candidate:** Articles, Patents (filed / granted), technical notes, book chapters etc. published by the candidate from his/her research work may be separately listed with same format used for listing the references at the end of the thesis. Such publications shall, however, not be cited in the thesis.

### **Thesis Format:**

#### **Paper Specification**

**Quality:** Thesis shall be printed on executive white bond papers only.

#### **Paper Size and Margins**

- The paper shall be standard A4 size.
- Top and bottom margins should be 25 mm, right margin should be 20 mm, and the left margin should be 35 mm for both textual and non-textual (figures, tables, etc.) pages. The header footer should be 10 mm each.
- Minimum space below a sub-section head (title) at the bottom of the page should have at least 2 full lines; otherwise it should begin on the next page.

## **Text Font, Text Size, and Line Spacing**

**Font:** Throughout the thesis, only the standard Times New Roman fonts shall be used.

**Initial Submission:** The general text of the manuscript shall be 1.5 lines spacing with a font size of 12 points. However, tables, quotations, footnotes, captions, and referencing materials shall be single spacing with 10 point text size.

**Final Submission:** The general text of the manuscript shall be in 1.5 line spacing with font size same as in the initial submission.

**Pagination:** Beginning with the first page of chapter 1 (Introduction) of the thesis, all pages shall be numbered consecutively using Arabic numerals in 12 point fonts. Page numbers of all the pages where a chapter begins shall appear at the center of the footer. Page numbers of all the pages, starting from the title page to the page before the chapter 1 starting page, shall be lower case Roman numerals (e.g. i, ii, iii etc.), placed at the center of footer. However, the page number on the title page shall not be printed.

**Header Format:** The header shall contain the chapter title on the even numbered pages and section title on the odd numbered pages. The section title shall start from the following relevant page where it appeared first.

**Paragraph Format:** The paragraph of each section and subsection shall start without any indentation. A vertical space of around 12 points should be left between the section title line and the first paragraph of each section and subsections. All the paragraphs in the thesis shall be in single column format with full justification. A paragraph should normally comprise more than one line. A single line paragraph shall not be placed at the top or bottom of a page.

**Chapter(s):** A chapter always begins on a fresh page. The capitalized word “CHAPTER” with a font size of 20 should begin with an additional top margin of 30 mm (total 50 mm) followed by chapter no. with center aligned. Next, place the chapter heading with 20 font size and leaving around 18 points vertical spaces and center justified. Leave around 36 points vertical space after chapter heading. In the chapter heading, capitalize the first letter all the words. Use boldface letters and numbers only.

**Sections and Subsections:** A chapter is usually needed to be divided into sections, subsections, etc. So as to present concepts with different aspects separately. As mentioned above, a vertical space of around 36 point should be left between the chapter heading and the title of the first section of every chapter. For all subsequent sections/subsections, leave a vertical space of around 24 points before the section/subsection headings. A vertical space of around 12 points should always be left between the first line and the title of every section/subsection. Sections and subsections shall be numbered chapter wise and consecutively. For example, say the first and second sections in chapter 5 shall be numbered as 5.1 and 5.2, respectively. Likewise, the third subsections of sections 1 and 2 in a chapter 4 shall be numbered as 4.1.3 and 4.2.3, respectively. Same style as in chapter heading but with font size of 14 and 12 for section and subsections, respectively, shall be followed for their titles, with a gap of around six characters between their numbers. Use boldface letters and numbers and the entire writable horizontal space to write their numbers and titles. Sub-subsection of a subsection should not be numbered. The title of such topic should all be boldface capitalized letter followed by a colon (:). The content of the same should start after the colon leaving a single character. Leave a space of around 12 points before a sub-subsection. Further division of topics is not recommended.

**Tables, figures, and Equations:**

- All tables and figures should be printed on the same papers used to print the text.
- As far as possible, tables and figures are presented in portrait style.
- All tables, figures, and equations must be numbered sequentially and chapter-wise using Arabic numerals. It must reflect the chapter number also, e.g. 2.1, 6.25 etc. Use boldface capital letters and numbers (separated by a single space) to number a figure and table, e.g., **FIGURE 2.1, TABLE 3.2**. While a caption (figure number) should be placed below the figure, a caption (table number) should be placed above the table. A figure/table should be separated from its number by 1.5 lines. Equations shall form a separate line, having 6 points paragraph separation above and below, with equation numbers within parenthesis and flushed to the right.
- When a figure or table is referred to in the body of the text, the first letter of the word needs to be capitalized with appropriate abbreviations as, for instance, Table 2.17 and Fig. 3.24.
- When an equation is referred to in the text and appears as the first word of the sentence, it needs to be capitalized without any abbreviation as, for instance, Equation (2.5). In all other cases of referring an equation, simply write the equation number in parenthesis as, for example, (2.5).
- All figures and tables shall be appropriately captioned using sentence style format and immediately below the corresponding numbers with an additional space of 6 points in

between. If more than one line is needed for the caption they should be separated with single line spacing. A caption needs to be justified with the table/figure borders.

- Font sizes of legends, axis labels etc. of figures should be sufficiently large so that even after compression of the figure, they are legible enough (having same sizes as in the general text).
- Short (less than around half of the writable page area) figures and tables should be presented immediately following their first mention in the text and preferably on the upper portion (before the text) of the following page or bottom portion of the same page, but separated by single lines spacing from the text. If they are placed in between then they should be separated by single lines spacing from both above and below. On the other hand, large figures and tables should be presented on page(s) following their first mention in the text.
- Images, Photographs, etc. must be scanned in resolution at least 600 dpi

**Binding:** The examination copies of the thesis may be soft (spiral) or paperback cover (soft cover) bound. A paperback cover means a thick laminated covers (front and back). However, the finally corrected and accepted copies of thesis need to be submitted in hard bound only with the black colour.

Two separate additional white sheets shall be put at the beginning and end of the thesis (after and before the front and back cover pages, respectively).

**Concluding Remarks:** This guide lists only the salient requirements for preparing the thesis. Over and above, a thesis should be reader-friendly in its presentation. Several aspects need a more elaborations, which are not included here. Wherever confusion arises, Research Scholars should follow appropriate guidelines from a standard literature from his/her research area. However, a uniform style and format must be followed throughout the entire thesis.



# Annexures

[TYPE THESIS TITLE HERE]

A Thesis submitted to Gujarat Technological University

for the Award of

Doctor of Philosophy

in

[Branch / Discipline Name]

by

[Full Name of the Research Scholar]

[Enrollment No.]

under supervision of

[Name of Supervisor]



**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**AHMEDABAD**

[Month – Year of Submission]

[TYPE THESIS TITLE HERE]

A Thesis submitted to Gujarat Technological University

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[Enrollment No.]

under supervision of

[Name of Supervisor]



**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**AHMEDABAD**

[Month – Year of Submission]

© [Full Name of the Research Scholar]

## DECLARATION

I declare that the thesis entitled .....  
..... submitted by me for the  
degree of Doctor of Philosophy is the record of research work carried out by me during the  
period from.....to..... under the supervision  
of ..... and this has not formed  
the basis for the award of any degree, diploma, associateship, fellowship, titles in this or  
any other University or other institution of higher learning.

I further declare that the material obtained from other sources has been duly  
acknowledged in the thesis. I shall be solely responsible for any plagiarism or other  
irregularities, if noticed in the thesis.

Signature of the Research Scholar : ..... Date:.....

Name of Research Scholar: .....

Place : .....

## CERTIFICATE

I certify that the work incorporated in the thesis .....

.....  
(Title) submitted by Shri / Smt. / Kumari .....

..... was carried out by the candidate under my supervision/guidance. To the best of my knowledge: (i) the candidate has not submitted the same research work to any other institution for any degree/diploma, Associateship, Fellowship or other similar titles (ii) the thesis submitted is a record of original research work done by the Research Scholar during the period of study under my supervision, and (iii) the thesis represents independent research work on the part of the Research Scholar.

Signature of Supervisor: ..... Date: .....

Name of Supervisor: .....

Place: .....

## Course-work Completion Certificate

This is to certify that Mr. /Mrs./Ms. \_\_\_\_\_ enrolment no. \_\_\_\_\_ is a PhD scholar enrolled for PhD program in the branch \_\_\_\_\_ of Gujarat Technological University, Ahmedabad.

**(Please tick the relevant option(s))**

He/She has been exempted from the course-work (successfully completed during M.Phil Course)

He/She has been exempted from Research Methodology Course only (successfully completed during M.Phil Course)

He/She has successfully completed the PhD course work for the partial requirement for the award of PhD Degree. His/ Her performance in the course work is as follows-

Grade Obtained in Research Methodology (PH001)	Grade Obtained in Self Study Course (Core Subject) (PH002)

Supervisor's Sign

(Name of Supervisor)

## Originality Report Certificate

It is certified that PhD Thesis titled .....

by ..... has been examined by us. We undertake the following:

- a. Thesis has significant new work / knowledge as compared already published or are under consideration to be published elsewhere. No sentence, equation, diagram, table, paragraph or section has been copied verbatim from previous work unless it is placed under quotation marks and duly referenced.
- b. The work presented is original and own work of the author (i.e. there is no plagiarism). No ideas, processes, results or words of others have been presented as Author own work.
- c. There is no fabrication of data or results which have been compiled / analysed.
- d. There is no falsification by manipulating research materials, equipment or processes, or changing or omitting data or results such that the research is not accurately represented in the research record.
- e. The thesis has been checked using **<name of any reputed plagiarism check software>** (copy of originality report attached) and found within limits as per GTU Plagiarism Policy and instructions issued from time to time (i.e. permitted similarity index  $\leq 25\%$ ).

Signature of the Research Scholar : ..... Date: .....

Name of Research Scholar: .....

Place : .....

Signature of Supervisor: ..... Date: .....

Name of Supervisor: .....

Place: .....



## **PhD THESIS Non-Exclusive License to GUJARAT TECHNOLOGICAL UNIVERSITY**

In consideration of being a PhD Research Scholar at GTU and in the interests of the facilitation of research at GTU and elsewhere, I, ..... (Full Name of the Research Scholar) having (Enrollment No.) ..... hereby grant a non-exclusive, royalty free and perpetual license to GTU on the following terms:

- a) GTU is permitted to archive, reproduce and distribute my thesis, in whole or in part, and/or my abstract, in whole or in part ( referred to collectively as the “Work”) anywhere in the world, for non-commercial purposes, in all forms of media;
- b) GTU is permitted to authorize, sub-lease, sub-contract or procure any of the acts mentioned in paragraph (a);
- c) GTU is authorized to submit the Work at any National / International Library, under the authority of their “Thesis Non-Exclusive License”;
- d) The Universal Copyright Notice (©) shall appear on all copies made under the authority of this license;
- e) I undertake to submit my thesis, through my University, to any Library and Archives. Any abstract submitted with the thesis will be considered to form part of the thesis.
- f) I represent that my thesis is my original work, does not infringe any rights of others, including privacy rights, and that I have the right to make the grant conferred by this non-exclusive license.
- g) If third party copyrighted material was included in my thesis for which, under the terms of the Copyright Act, written permission from the copyright owners is required, I have

obtained such permission from the copyright owners to do the acts mentioned in paragraph (a) above for the full term of copyright protection.

- h) I retain copyright ownership and moral rights in my thesis, and may deal with the copyright in my thesis, in any way consistent with rights granted by me to my University in this non-exclusive license.
- i) I further promise to inform any person to whom I may hereafter assign or license my copyright in my thesis of the rights granted by me to my University in this non-exclusive license.
- j) I am aware of and agree to accept the conditions and regulations of PhD including all policy matters related to authorship and plagiarism.

Signature of the Research Scholar: \_\_\_\_\_

Name of Research Scholar: \_\_\_\_\_

Date: \_\_\_\_\_ Place: \_\_\_\_\_

Signature of Supervisor: \_\_\_\_\_

Name of Supervisor: \_\_\_\_\_

Date: \_\_\_\_\_ Place: \_\_\_\_\_

Seal:

## Thesis Approval Form

The viva-voce of the PhD Thesis submitted by Shri/Smt./Kum.  
.....  
(Enrollment No. ....) entitled  
.....  
was conducted on ..... (day and date) at Gujarat Technological  
University.

**(Please tick any one of the following option)**

- The performance of the candidate was satisfactory. We recommend that he/she be awarded the PhD degree.
- Any further modifications in research work recommended by the panel after 3 months from the date of first viva-voce upon request of the Supervisor or request of Independent Research Scholar after which viva-voce can be re-conducted by the same panel again.

(briefly specify the modifications suggested by the panel)

- The performance of the candidate was unsatisfactory. We recommend that he/she should not be awarded the PhD degree.

(The panel must give justifications for rejecting the research work)

-----  
Name and Signature of Supervisor with Seal

-----  
1) (External Examiner 1) Name and Signature

-----  
2) (External Examiner 2) Name and Signature

-----  
3) (External Examiner 3) Name and Signature

# **ABSTRACT**

[Type your abstract here]

## **Acknowledgement and / or Dedication**

[Type your acknowledgement and / or Dedication content here]

## **Table of Content**

[Type your table of content here]

## **List of Abbreviation**

[Type your Abbreviation here]

## **List of Symbols**

[Type your List of Symbols here]



## **List of Figures**

[Type your List of Figures here]

## **List of Tables**

[Type your List of Tables here]

## **List of Appendices**

- Appendix A : [Type your Appendix A here]  
Appendix B : [Type your Appendix B here]  
Appendix C : [Type your Appendix C here]  
Appendix D : [Type your Appendix D here]

**Annexure – XVI (Thesis Body)**

## **CHAPTER – [Chapter No.]**

### **[Chapter Heading]**

[Type the content of the Chapter here]

## List of References

[Type your List of References here]

Likewise :

### Journal

Example:

1. Author, Year, Title, Journal Name, Volume, Page No., ISSN No.

### Chapter in Books

1. Wenzel HJ, Schwartzkroin PA (2006) Morphologic approaches to the characterization of epilepsy models. In: Pitkanen A, Schwartzkroin PA, Moshe SL (eds) *Models of seizures and epilepsy*, Elsevier Academic Press, San Diego, pp. 629-652.

### Book

1. Pechenik JA (1987) *A short guide to writing about biology*. Harper Collins Publishers, New York.

### Book in a series

1. Bhattacharjee M (1998) *Notes of infinite permutation groups, Lecture notes in mathematics* no.1698, Springer, New York.

### Encyclopedia articles

1. Varley DH, Immelman RFM (1972) Libraries. *Standard Encyclopaedia of Southern Africa*, vol.6, p.618-619

### Thesis/dissertation

1. Smithers RHN (1997) *The mammals of Botswana*. DSc thesis. University of Pretoria.

### Conference proceedings

1. Bourassa S (1999) 'Effects of child care on young children', *Proceedings of the third annual meeting of the International Society for Child Psychology*, International Society for Child Psychology, Atlanta, Georgia, pp. 44-6.

### Citations from Internet

1. The following elements in sequence must be considered: Author (if known), Date of publication/last updated, Title of article or document on website Type of medium [Online], Available from (website), Access date in brackets
2. Harris P (2005) Reaching the top of the mountain. [Online]. Oxford University Press: Oxford. Available: <http://www.netLibrary.com/openbook/093456/html> [Accessed 8 January 2008]
3. Useful tips for referencing. [Online]. Available: <http://www.referencetips.org.za> [Accessed 5 November 2008].
4. Lawrence JJ (2005) Cholera epidemics in central Africa. *The Times*, 26 June 2005. [Online]. Available: <http://thetimes.com> [Accessed 27 June 2005].

### Patents

1. Author(s) of patent – surname and initials Year of issue, Title of patent- italicised, Number of patent including country of issue Cookson AH (1985) Particle trap for compressed gas insulated transmission systems, US Patent 4554399.

## **Bibliography**

[Type your Bibliography here]

## List of Publications

[Type your List of Publications here]

**List of publications:** List of publications obtained by the Research Scholar from the PhD work should be included in the Thesis. Research Scholars are strongly encouraged to place the accepted versions of the manuscripts (maximum two), which were integral part of thesis work.

[Articles, Patents (filed / granted), technical notes, book chapters etc. published by the candidate from his/her research work may be separately listed with same format used for listing the references at the end of the thesis. Such publications shall, however, not be cited in the thesis.]