Annexure - IX

Specification and Information Regarding the Preparation of Thesis

(Under Clause 11.3.2 of Revised PG Ordinances)



INDIAN INSTITUTE OF TECHNOLOGY (BANARAS HINDU UNIVERSITY) VARANASI – 221 005

GUIDELINES FOR THESIS PREPARATION

This document, herein after referred to as **Specification and Information Regarding the Preparation of Thesis**, lists the general and specific requirements governing thesis preparation including guidelines for structuring the content.

1. SUBMISSION OF THESIS

Required number of copies of the thesis and the abstracts are to be submitted to the Dean, Academic Affairs along with the checklist as per the details given below. Thesis will be submitted only after all other requirements for graduation has been completed successfully, including the thesis credits requirements.

Checklist at the time of Thesis Submission (for Office Use)

Please see Appendix – D

1.1 M.Tech./M.Pharm./IDD/IMD

Unbound copies of the thesis, one for each examiner of the oral board (including the thesis supervisor(s)) along with two copies of abstract (of about 250 words) should be submitted at least 10 days before the probable date of oral examination. The abstract should include a cover page, the format of which is given in Appendix - A.

After the oral examination board has cleared the thesis, the student should incorporate suggestions and/or corrections (if any) and submit the thesis in the final bound form to the Examination Unit of Office of the Dean, Academic Affairs.

1.2 Ph.D.

An extended abstract of about 1500 words in PDF format written on a CD along with two print copies is required to be submitted one month in advance of the submission of the thesis for transmission to various examiners. The abstract should include a cover page, the format of which is given in Appendix - A. It may also contain some illustrations if necessary.

Upon intimation from Dean, Academic Affairs, six softbound (not spiral bound) copies of the thesis should be submitted. In addition, a soft copy of the thesis, split chapter-wise, in PDF format should also be submitted along with the thesis.

2 SPECIFICATIONS FOR THESIS FORMAT

2.1 Preparation of Manuscript and Copies

2.1.1 The thesis needs to be prepared using a standard text processing software and must be printed on both sides of the paper in black text (color for images, if necessary)

- using a laser printer in Times New Roman with font size 12 pt. Text of the thesis must be in single column on each page.
- 2.1.2 All copies of thesis must be clear, sharp and even, with uniform size and uniformly spaced characters, lines, paragraphs and margins on every page of good quality white paper of 75 gsm or more.
- 2.1.3 Every chapter has to begin on a new page.

2.2 Size and Margins

- 2.2.1 The thesis must be printed only on A4 size white paper.
- 2.2.2 The top and bottom margins should be 25 mm, whereas the left side margins of odd pages and right side margins of even pages should be 35 mm for both textual and non-textual (e.g., figures, tables) pages (if MS word is used "mirror margin" option can be adopted for this purpose).
- 2.2.3 Content should not extend beyond the bottom margin except for completing a footnote, last line of chapter/subdivision, or figure caption.
- 2.2.4 A sub-head at the bottom of the page should have at least two full lines of content below it. If the sub-head is too short to allow this, it should begin on the next page.
- 2.2.5 All tables and figures should conform to the same requirements as text. Color may be used for figures. If tables and figures are large, they may be reduced to the standard size (provided the reduced area is not less than 50% of the original) and/or folded just once to flush with the thesis margin. In figures, the tick marks on the axes of the graph and the symbols used in the graph should be distinct and bold enough even after the necessary reduction.
- 2.2.6 After the thesis is accepted by the oral board for the award of Ph.D. degree, the student should make the final submission of two copies of the thesis in hard bound form, one for record in the examination office of the Institute and the other for keeping in the Institute Main Library. The student may choose to submit printed copies of the thesis either in the standard size (as in 2.2.1) or in a book format that is roughly half of A4. If the book format is adopted for final submission, it should be ensured that all textual and illustrative materials and figures are distinct and legible after reduction in size.
- 2.2.7 Students should also submit the final thesis in soft form (Chapter wise PDFs) in a CD for storage and archival on "Shodhganga" of UGC.

2.3 Page Numbering

2.3.1 Beginning with the first page of the text in the thesis (chapter 1), all pages should be numbered consecutively and consistently in Arabic numerals through the appendices. On the first page of each chapter the page numbers need not be printed.

2.3.2 Page numbers prior to Chapter 1 should be in lower case Roman numerals. The title page is considered to be page (i) but the number is not printed.

2.4 Multi-Volume Thesis

A thesis may be in two or more volumes, if required. The volume separation should come at the end(s) of major division(s). The preliminary pages prior to Chapter 1 are contained only in Volume I, except the title page, which should be present on all the volumes.

2.5 Line Spacing

The general text of the manuscript should be in two line spacing. Long tables, quotations, footnotes, multi-line captions, references and bibliographic entries should be in single spacing.

2.6 Tables, Figures and Equations

- 2.6.1 All Tables (tabulated data) and Figures (charts, graphs, maps, images, diagrams, *etc.*) should be prepared, wherever possible, on the same paper as used to type the text and conform to the specifications outlined earlier. They should be inserted as close to the textual reference as possible.
- 2.6.2 Tables, Figures and Equations should be numbered sequentially Chapter-wise using Arabic numerals. They are referred to in the body of the text capitalizing the first letter of the word and number, as for instance, Table 5.3, Figure 3.11, Equation (4.16), *etc.* where the first number before decimal indicates the Chapter.
- 2.6.3 If Tables and Figures are of only half a page or less, they may appear on the same page as text but separated above and below by triple line spacing. Font size for text of the Table and Figure captions should be the same as for the general text.
- 2.6.4 Good quality Line Drawings/Figures must be drawn using standard software that provides vector rather than bit-map graphics. Figures must be clear in print version with respect to legends, symbols and tick marks etc.
- 2.6.5 Images, Photographs, *etc.* must be scanned in resolution exceeding 200 dpi with 256 grayscales for the monochrome images and with pixel size at least 24 bit per pixel for the color images.

2.7 Binding

The student should submit the copies of the thesis in softbound form with soft cover (not spiral bound) for Ph.D. and partially bound form (spiral binding, clamping, or filing) for M.Tech, respectively. Once the thesis is accepted by the Oral Board, the student should submit the two numbers of copies of properly bound thesis to the office of Dean, Academic Affairs. The front cover of the bound copy should be the same as the title page of the thesis. The front cover should have printing on the spine to include the author's name, abbreviated thesis title (optional), degree, department, and the year.

3. GUIDELINES FOR STRUCTURING CONTENTS

3.1 Sequence of Contents

The following sequence for the thesis organization should be followed:

- (i) Preliminaries
- (ii) Text of Thesis
- (iii) References and Bibliography
- (iv) Appendices

All the headings are centered (without punctuation) 25 mm down the top edge of the page. The subsequent type-setting begins four spaces below the heading.

3.2 Preliminaries

The preliminaries consists the following in the sequence as mentioned below:

- Title Page
- Certificates
- Acknowledgement and/or Dedication
- Table of Contents
- List of Figures, Tables, Illustrations
- Symbols used
- Preface

3.2.1 Title Page

Outer cover and inner title page should be on light blue Board for Ph.D. Thesis and on Light CREAME Colour Board for M.Tech./M.Pharm./IDD/IMD Thesis. Refer to the Format given in Appendix - B

3.2.2 Certificates

Refer to Appendix - C.

3.2.3 Acknowledgement and/or Dedication

As per student's desire but they should contain only text and no photographs.

3.2.4 Table of Contents

The Table of contents should list all material that follows it and no preceding material should be listed. Chapter, Section, Subs-section should be mentioned with proper indent along with corresponding page numbers. For sub-sub-sections only title without page numbers may be mentioned (not mandatory). Three levels of indenting is preferred and **in any** case the indenting should not exceed 4 levels.

3.2.5 List of Figures, Tables, Illustrations

Tables, figures and illustrations (if used in the thesis) should be listed under separate headings.

3.2.6 Symbols used

Various symbols used in the Thesis should be listed along with their meaning.

3.2.7 Preface

Preface should contain a brief introduction of the thesis stating its subject, scope and aims of the research work undertaken and the philosophy of approach.

3.3 The Text of the Thesis

The text of the thesis contains the following:

- Introduction
- The Body of the Thesis
- Summary and Conclusion

3.3.1 Introduction

Introduction forms the first Chapter or its first major division. In either case, it should contain a brief statement of the problem investigated. It should outline the objectives and scope, general character of the research and a review of the investigations already carried out in the field the thesis.

3.3.2 The body of Thesis

This is the substance of the thesis inclusive of all divisions, subdivisions, Tables, Figures, *etc*.

3.3.3 Summary and conclusions

This forms the last Chapter of the thesis. A brief summary of the work followed by the salient findings are given here. A further subdivision titled "Scope for Further Work" may follow.

3.4 Reference and Bibliography

The list of references should appear as a consolidated list with references listed either alphabetically or sequentially as they appear in the text of the thesis under the subheading "References". If pertinent works have been consulted but not specifically cited, they should be listed under the subheading "Bibliography". Spacing and font size should be consistent inside a single reference, and there should be one and half spacing between two different references (see Section 2.5).

Formats to be used for various categories of referencing are given below:

- Referencing an article in a scientific journal: The suggested format should contain authors, title of the paper, name of journal, volume number, page numbers and year.
- Referencing an article published in proceedings of a conference: The suggested format should contain authors, title of the paper, name of proceedings, publisher's details, page numbers and year.
- Referencing an article published in a book: The suggested format should contain authors, the title of the book, editors, publishers if any, year, page number of the article in the book being referred to.
- **Referencing a thesis**: The suggested format should contain author, the title of thesis, where thesis was submitted or awarded, year.

A few examples of formats of references are given below and the student should be consistent in following the style.

Journals

H.E. Exner, "Physical and Chemical Nature of Cemented Carbides," *International Metals Review*, 1979, v. 24, pp. 149-173. OR **24**(1979)149-173 [if referencing is done on the name of first author in the body of the Thesis, then these references should appear in alphabetical order]

G.E. Spriggs, "The Importance of Atmosphere Control in Hard Metal Production," *Powder Metallurgy*, 1970, v. 13, n. 26, pp. 369-393. OR (26),**13**(1970)369-393

web references in specific cases are permitted.

Conference Proceedings

H.F. Fischmeister, "Development and Present Status of the Science and Technology of Hard Materials," Science of Hard Materials, R.K. Viswanadham, D.J. Rowcliffe, and J. Gurland (eds.), Plenum Press, New York, NY, USA, 1982, pp. 1-45.

W.H. Baek, M.H. Hong, S. Lee, and D.T. Chung, "A Study on the Shear Localization Behavior of Tungsten Heavy Alloy," Tungsten and Refractory Metals 2, A. Bose and R.J. Dowding (eds.), Metal Powder Industries Federation, Princeton, NJ, USA, 1995, pp. 463-471.

Books

R.M. German, Powder Injection Molding, Metal Powder Industries Federation, Princeton, NJ, USA, 1990.

Thesis

J.L. Johnson, "Densification, Microstructural Evolution, and Thermal Properties of Liquid Phase Sintered Composites," Ph.D. Thesis, The Pennsylvania State University, University Park, PA, USA, 1994.

Technical Reports

E.G. Zukas, P.S.Z. Rogers, and R.S. Rogers, "Experimental Evidence for Spheroid Growth Mechanisms in the Liquid Phase Sintered Tungsten Based Composites," Informal Report: Los Alamos Scientific laboratory, USA, 1976, pp. 1-35.

Patents

V. Oenning and I. S. R. Clark, U. S. Patent No. 4988386, 1991.

3.5 Sequencing the references

References should be appropriately cited in the text in square brackets either by continuous numbering in sequence starting from 1 or by using the first author's name. When sequencing is used for referencing references with continuous numbers, only the first and the last referenced numbers should appear in the square bracket.

3.6 Appendices

3.6.1 Supplementary illustrative materials, original data, and quotations too lengthy for inclusion in the text or which is not immediately essential to an understanding of the subject can be presented in Appendix or Appendices (as Appendix - A, Appendix - B, *etc.*)

- 3.6.2 Each appendix with its title should be listed separately in the table of contents. Likewise, tables and figures contained in the Appendices are to be included in the lists of tables and figures, respectively. They may be numbered as Fig. A.11 for Appendix A or Table B.15 for a Table in Appendix B.
- 3.6.3 List of publications that arose out of the Thesis work.

4. CONCLUDING REMARKS

Guidelines are only the basic requirements for preparing the thesis. Over and above the aforementioned points, a thesis should be reader-friendly in both its appearance and presentation. Several aspects of thesis preparation, particularly style of writing and presentation, have not been discussed in great detail. The student should follow appropriate ideas from standard literature of his/ her area of research, and adopt a uniform style and format throughout the thesis, such as in the structural divisions/subdivisions of the thesis, in the mode of citing references and footnotes in the text, in using dimensions, units and notations, and in preparing tables, figures, *etc*. It is mandatory to use SI system of units.

Presentation & style of writing should be impersonal voice (i.e. to be in third person).

Appendix - A

FORMAT FOR THE COVER PAGE OF EXTENDED ABSTRACT

EXTENDED ABSTRACT

TITLE OF THE THESIS

INSTITUTE'S LOGO

Name of Student	Roll No
Degree for which submitted Name of Department	t/School

Signature of the Supervisor

("NAME OF THE SUPERVISOR")

Appendix - B

FORMAT FOR THE OUTER COVER AND INNER TITLE PAGE OF THE THESIS

For M.Tech./M.Pharm./IDD/IMD

"TITLE OF THE THESIS"

"INSTITUTE'S LOGO"

Thesis submitted in partial fulfillment

for the Award of

"NAME OF THE DEGREE"

in

Discipline or NAME OF DEPARTMENT/SCHOOL

by

"NAME OF THE STUDENT"

"NAME OF DEPARTMENT"
INDIAN INSTITUTE OF TECHNOLOGY
(BANARAS HINDU UNIVERSITY)
VARANASI – 221 005

"ROLL NUMBER OF THE STUDENT"

"YEAR OF SUBMISSION"

For Ph.D.

"TITLE OF THE THESIS"

"INSTITUTE'S LOGO"

Thesis submitted in partial fulfillment for the Award of Degree

Doctor of Philosophy

by

"NAME OF THE STUDENT"

"NAME OF DEPARTMENT"
INDIAN INSTITUTE OF TECHNOLOGY
(BANARAS HINDU UNIVERSITY)
VARANASI – 221 005

"ROLL NUMBER OF THE STUDENT"

"YEAR OF SUBMISSION"

Appendix - C

FORMAT FOR CERTIFICATES

CERTIFICATE

It is certified that the work contained in the thesis titled " TITLE OF THE THESIS " by

"NAME OF THE STUDENT" has been carried out under my/our supervision and that this

work has not been submitted elsewhere for a degree.

It is further certified that the student has fulfilled all the requirements of Comprehensive

Examination, Candidacy and SOTA for the award of Ph.D. Degree.

Signature: Supervisor (Affiliation) **Co-Supervisor** (Affiliation)

External Supervisor (Affiliation)

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DECLARATION BY THE CANDIDATE

I, "NAME OF THE STUDENT", certify that the work embodied in this thesis is my own bona fide work and carried out by me under the supervision of "NAME OF THE SUPERVISOR(S)" from "THESIS PERIOD" to ".......", at the "NAME OF THE DEPARTMENT/ SCHOOL", Indian Institute of Technology (BHU), Varanasi. The matter embodied in this thesis has not been submitted for the award of any other degree/diploma. I declare that I have faithfully acknowledged and given credits to the research workers wherever their works have been cited in my work in this thesis. I further declare that I have not willfully copied any other's work, paragraphs, text, data, results, etc., reported in journals, books, magazines, reports dissertations, theses, etc., or available at websites and have not included them in this thesis and have not cited as my own work.

Date: Signature of the Student

Place: ("NAME OF THE STUDENT")

CERTIFICATE BY THE SUPERVISOR(S)

It is certified that the above statement made by the student is correct to the best of my/our knowledge.

Supervisor Co-Supervisor External Supervisor (Affiliation) (Affiliation)

Signature of Head of Department/Coordinator of School "SEAL OF THE DEPARTMENT/SCHOOL"

COPYRIGHT TRANSFER CERTIFICATE

Name of the Student :				
The undersigned here	eby assigns to the Institute of Technology (Banaras Hindu University)			
Varanasi all rights u	nder copyright that may exist in and for the above thesis submitted			
for the award of the "	NAME OF THE DEGREE".			
Date :	Signature of the Student			
Place:	("NAME OF THE STUDENT")			

Note: However, the author may reproduce or authorize others to reproduce material extracted verbatim from the thesis or derivative of the thesis for author's personal use provided that the source and the Institute's copyright notice are indicated.

INDIAN INSTITUTE OF TECHNOLOGY (BANARAS HINDU UNIVERSITY)

* * *

FOR SUBMISSION OF PH.D. THESIS PERSONAL DETAILS

Name of Student :		
Roll No. : Term of Registration :		
Category of Registration :		
Fulfilled required Minimum Residence period: 4 Semesters / 5 Semesters / 6 Semesters	emesters (Pl.tick)	
Supervisor/Co-Supervisor		
Department/School		
Title of Thesis		
ATTENTION		
NOTE: Before submission of Thesis by a student, the following be verified & the Department/School concerned.	completed by	
• Minimum Residence Period completed : 4 Sem./5 Sem./6 Sem.	YES/NO	
Course Credit requirements fulfilled	YES/NO	
• Thesis Credits requirements fulfilled	YES/NO	
• Passed the Comprehensive Examination YES/NO		
Admitted to Candidacy (Certificate enclosed)	YES/NO	
SOTA has been completed satisfactorily (Certificate enclosed)	YES/NO	
Open Seminar completed satisfactorily (Certificate enclosed)	YES/NO	
• SIX copies of the thesis duly forwarded by the Supervisor & HoD (Roll No. of the candidate should be mentioned on each copy)	YES/NO	
• At least 2 Research Publications in reputed Journals (Published/accepted)	YES/NO	
• TWO copies of ABSTRACT of the thesis in about 600 words	YES/NO P.T.O.	

:2:

•	ONE CD containing Abstract	YES/NO
•	ONE CD containing Thesis with Chapter wise pdf files	YES/NO
•	Undertaking from the student duly forwarded by the Supervisor: To the effect that the Thesis has been prepared without resorting to plagiarism	YES/NO
-	To the effect that the Thesis has not been submitted elsewhere for a Degree	YES/NO
-	To the effect that Sources used have been cited appropriately	YES/NO
•	Certificate from the Supervisor concerned :	YES/NO
•	To the effect that Specifications regarding thesis format have been followed Copyright transfer certificate	YES/NO
•	Whether Thesis Evaluation Board constituted and communicated to Dean (Academic Affairs)	YES/NO

Convener, DPGC of the Department/School

Supervisor/Co-Supervisor