



**MULTIDIMENSIONAL EDUCATIONAL TECHNICAL  
& RESEARCH SOCIETY**

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**Standard format / Synopsys for Preparation  
of**

**Thesis/Dissertation/Report**

For

**Ph.D./M.Tech./M.Phil./M.Sc/MCA Students**



**Multidimensional Educational Technical & Research  
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**TITLE OF THE THESIS/DISSERTATION  
(Front Page)**

*Thesis/Dissertation submitted to the*

*Multidimensional Educational Technical & Research Society*

*For the partial fulfilment for the award of the degree of*

**Doctor of Philosophy/Master of Technology/Master of Philosophy/Master of  
Science (Name of the Degree) in Engineering/Science/Humanity (Subject)**

**[for PhD] Subject [for Master courses]**

*By*

**Name of the Student**

*(Registration No. :)*

*Under the Supervision of*

**Name of Supervisor (s)**



**NAME OF THE DEPARTMENT/INSTITUTION**

**Multidimensional Educational Technical & Research Society**

**Month Year :01/01/2019**

## CERTIFICATE

This is to certify that the work contained in the thesis entitled “**Title of the Thesis**”, submitted by **Name of the Student (Regd. No.: \*\*\*\*\*)** for the award of the degree of **Name of the Degree** to the **Multidimensional Educational Technical & Research Society**, is a record of bonafide research works carried out by him under my direct supervision and guidance.

I considered that the thesis has reached the standards and fulfilling the requirements of the rules and regulations relating to the nature of the degree. The contents embodied in the thesis have not been submitted for the award of any other degree or diploma in this or any other university.

Date: .....

Place:.....

**Signature of Supervisor(s) \**

**and designation Name(s)**

**Department(s)**

## DECLARATION

I certify that

a. The work contained in the thesis is original and has been done by myself under the supervision of my supervisor.

b. The work has not been submitted to any other Institute for any degree or diploma.

c. I have conformed to the norms and guidelines given in the Ethical Code of Conduct of the Institute.

d. 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.

e. Whenever I have quoted written materials from other sources and due credit is given to the sources by citing them.

f. From the plagiarism test, it is found that the similarity index of whole thesis within 25% and single paper is less than 10 % as per the university guidelines.

Date:-.....

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Place:-.....

**Name of the Student**  
**Regd. No.:**

## **ACKNOWLEDGEMENTS**

Write an acknowledgement for maximum of one page. The candidate should convey his appreciation to all whom have played a role for completion of his PhD work. The supervisor, supervisor, head of the Society, faculty members, lab mates etc may be acknowledged. Any controversial statement or non-academic/abused sentiments are not allowed to write in this page. At the end scholar should put his signature.

.....  
**Name of the Student**

## **ABSTRACT**

Abstract should be of around 300 words for M.Tech/MPhil./MSc Students.  
For Ph.D. students, the abstract should be of 500 words.

Abstract should highlight the thesis. The objectives and findings should be correlated and clear. The brief summary of the thesis with details of highlighting various chapter should be included in the abstract. The introduction and literature review are not required to incorporate in the abstract part of the thesis.

Abstract should be compacted within two pages of around 500 words. At the end of the abstract, twenty keywords should be mentioned. Keywords are the important buzz words of the thesis.

**Keywords:** Maximum 10 keywords for M.Tech/MPhil and 20 keywords for PhD should be mentioned

## **LIST OF ABBREVIATIONS**

Abbreviations should be alphabetically written

<b>Abbreviation</b>	<b>Description</b>
CNTs:	Carbon Nanotubes
DMSO:	Dimethyl sulfoxide
HRTEM:	High Resolution Transmission Electron Microscopy
PVA:	Polyvinyl alcohol
SEM:	Scanning Electron Microscopy
VSSUT:	Veer Surendra Sai University of Technology
XPS :	X-ray Photoelectron Spectroscopy

## LIST OF SYMBOLS

Symbols should be alphabetically written

Symbol	Nomenclature	Unit (MKS/CGS)
A	Area	m <sup>2</sup>
g	Acceleration due to gravity	m/s <sup>2</sup>
m	Mass g,	kg
v	Velocity	m/s
λ	Wavelength	nm, m
ν	Frequency	Hz, s <sup>-1</sup>
π	Osmotic pressure	Pa
ρ	Density	gm/cm <sup>3</sup>
σ	Surface tension	N/m

## LIST OF FIGURES

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### Chapter 7

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Image of Zirconium dioxide nanopowder.

Structure of Boron Nitride

Structure of calcium carbonate

Structure of LDH.

FTIR of starch and nanoSiC

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TGA curve of starch and its nanocomposites

Tensile strength of starch and cellulose

FTIR spectra of starch, ZrO<sub>2</sub>

FESEM image of starch/ZrO<sub>2</sub>

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**Table 2.2:** degradation temperature of starch and starch/EG bionanocomposites

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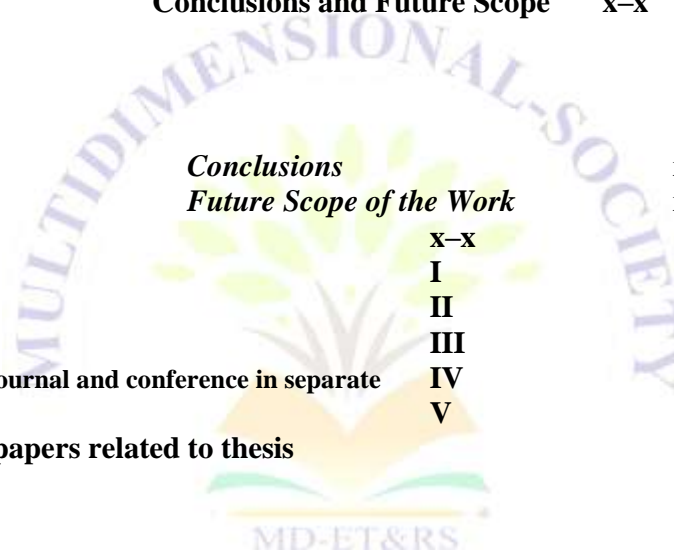
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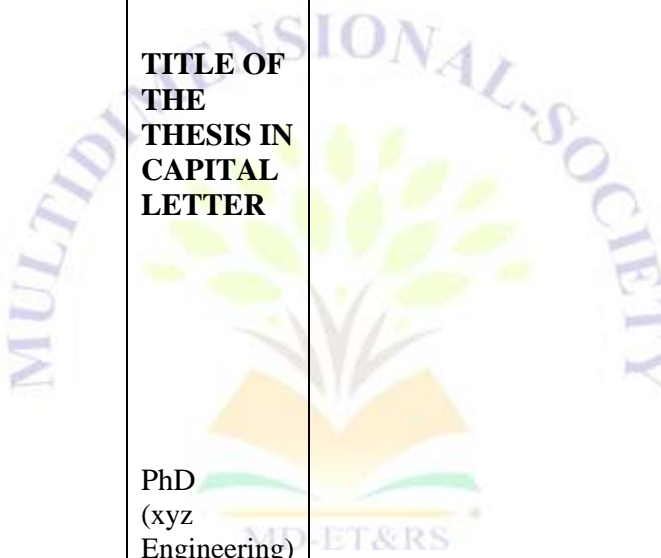
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## (Back Cover)

M.Tech/MPhil/MSc side title is optional. For PhD, it is compulsory.	→	<p>Name of the Student</p> <p><b>TITLE OF THE THESIS IN CAPITAL LETTER</b></p> <p>PhD (xyz Engineering) <b>20.....19</b></p>
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## GUIDELINES FOR THESIS PREPARATION

### 1. INTRODUCTION

#### 1.1 Purpose

This document, herein after referred to as the Thesis Guide, lists the general and specific requirements governing thesis preparation including guidelines for structuring the contents. For style, structure and presentation of the thesis, students may refer to additional style manuals or reference



guides (some of which are listed below) and to the published literature in their respective field of study.

### **1.3 Thesis Submission**

To have the thesis examined, the number of thesis copies to be submitted to the President of the society of Post Graduate Study & Research should correspond to (a) the number of thesis need to be submitted is 4 (including thesis of supervisors) for an M.Tech/MPhil./MSc Degree student, and (b) the number of thesis to be submitted for a Ph.D. degree student are 5 copies (for single supervisor) and 6 copies (for co-supervisor).

Besides various existing requirements for thesis submission such as submission of a list of examiners, additional copies of synopsis/abstract, and payment of thesis examination fees (for Ph.D. only), students and their thesis supervisors should ensure that the guidelines have been adhered to.

## **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 in black text (color for images, if necessary) using a laser printer or letter quality printer in standard typeface (Times New Roman).

**2.1.2** The thesis must be printed or photocopied on both sides of good quality white paper. All copies of thesis pages must be clear, sharp and even, with uniform size and uniformly spaced characters, lines and margins on every page of good quality white paper of 75 gsm or more.

**2.1.3** Thesis should be free from typographical errors.

### **2.2 Size and Margins**

#### **2.2.1 *Printing of thesis***

A4 (21 cm x 29.7 cm) is the recommended thesis size. Thesis should be printed BOTH SIDE.

**2.2.2** The top, bottom and right side margins should be 2.54 cm, whereas, the left side margin should be 3.5 cm for both textual and non-textual (e.g., figures, tables) pages. For both the side printing mirror margins with inside margin should be taken.

**2.2.3** Content should not extend beyond the bottom margin except for completing a footnote, last line of chapter/subdivision, or figure/table 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.

**2.2.6** Students may choose to submit printed thesis copies 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 submission, it should be ensured that all textual and illustrative material is distinct and legible. Students should also submit the thesis in soft form (both PDF and word) for storage and archival.

### **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 (1, 2, 3, ...) through the appendices. *All these pages should be double page printed.*

**2.3.2** Page numbers prior to Chapter 1 should be in lower case Roman numerals (i, ii, iii, ...). The title page is considered to be page (i) but the number is not printed. *All these pages should be single page printed.*

**2.3.3** All page numbers should be placed without punctuation in the lower right hand corner, 1.2 cm from the top edge and with the last digit even with the right hand margin.

## **2.5 Line Spacing**

The general text of the manuscript should be in 1.5 spacing (3 lines per inch). Long tables, quotations, footnotes, multi-line captions and bibliographic entries (references) should be in single spacing (6 lines per inch), with a preferred text size in 12 points.

## **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 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 either throughout the thesis or 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. For example the 1<sup>st</sup> figure of chapter 5 should be written as Figure 5.1 and 2<sup>nd</sup> table of chapter 4 is Table 4.2.

**2.6.3** If tables and figures are of only half a page or less, they may appear on the same page as text. Font size for text 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 scalable.

**2.6.5** Images, Photographs, etc. must be scanned in resolution exceeding 600 dpi with 256 grayscales for the monochrome images and 24 bit per pixel for the color images.

## **2.7 Binding**

The student should submit the copies of the thesis in fully bound form in hard cover. Once the thesis is accepted, it is the student's responsibility to get it properly bound before depositing the required number of copies with the Central Library and the Department concerned. 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 side 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 sequence for the thesis organization should be followed as mentioned in **Contents** page. All the headings are centred (without punctuation) 2.54 cm down the top edge of the page. The subsequent type-setting begins four spaces below the heading.

### **3.2 Preliminaries**

#### **3.2.1 Synopsis/Abstract**

**3.2.1.1** M.Tech/M.Phil. thesis should contain an abstract not exceeding 300 words (about one page), and a Ph.D. thesis should contain an abstract/synopsis not exceeding 500 words (about two pages) in double spacing.

**3.2.1.2** Ph.D. students shall also separately submit 6 copies of the synopsis/abstract for transmission to various examiners.

**3.2.1.3** Further, every student (Ph.D.) should submit 2 copies of brief abstract not exceeding 250 words (one page) for record keeping in the Central Library.

**3.2.1.4** A synopsis/abstract shall be printed in double space with the heading “SYNOPSIS/ABSTRACT” in uppercase followed by certain preliminary information and the text.

**3.2.1.5** Synopsis/Abstract should be self-complete and contain no citations for which the thesis has to be referred.

### **3.2.2 Table of Contents**

**3.2.1.1** The table of contents lists all material that follows it. No preceding material is listed. Chapter titles, sections, first and second order sub-divisions, etc. must be listed in it.

**3.2.2.2** Tables, figures, nomenclature, if used in the thesis, are listed under separate headings.

## **3.3 The Text of the Thesis**

### **3.3.1 Introduction**

Introduction may be 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 scope, aim, general character of the research and the reasons for the student’s interest in the problem.

### **3.3.2 The body of Thesis**

This is the substance of the dissertation inclusive of all divisions, subdivisions, tables, figures, etc.

### **3.3.3 Summary and conclusions**

If required, these are given as the last major division (chapter) of the text. A further and final subdivision titled “Scope for Further Work” should follow.(Mandatory for PhD)

### **3.3.4 Reference material**

*The list of references should appear as a consolidated list with references listed either alphabetically (Harvard reference style) or sequentially (Oxford reference style) as they appear in the text of the thesis.* A student can follow any standard reference style to prepare the thesis. If pertinent works have been consulted but not specifically cited, they should be listed as Bibliography or General References. Spacing and font size should be consistent inside a single reference, and there should be 1.5 spacing between two different references.

### **Reference Format**

For referencing an article in a scientific journal the suggested format should contain the following information: authors, year of publication, title, name of journal, volume number, issue number, and page numbers with range.

For referencing an article published in a book, the suggested format should contain, authors, year of publication, the title of the book, editors, publisher, and page number of the article in the book being referred to.

For referencing a thesis the suggested format should contain, author, year of publication, the title of thesis, and name of institute/university/college where the thesis was submitted or awarded.

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

The abbreviation of the journals can be referred to the Web of Science website or institute/university/college websites.

[https://images.webofknowledge.com/images/help/WOS/A\\_abrvjt.html](https://images.webofknowledge.com/images/help/WOS/A_abrvjt.html)

### **Journals**

Abdullah, S.A.; Iqbal, A.; Frommann, L. (2008) Melt mixing of carbon fibers and carbon nanotubes incorporated polyurethanes, *J. Appl. Polym. Sci.*, **110** (1), 196–202.

Swain, S. K.; Isayev, A.I. (2007) Effect of ultrasound on HDPE/clay nanocomposites: Rheology, structure and properties, *Polymer*, **48** (1), 281–289.

*A DOI can be used to cite and link to electronic articles where an article is in press/early view.*

### **Conference Proceedings**

Fischmeister, H.F. (1982) Development and present status of the science and technology of hard materials, Science of Hard Materials, Viswanadham, R.K.; Rowcliffe, D.J.; Gurland, J. (Eds.) Plenum Press, New York, USA, pp. 1–45.

Baek, W.H.; Hong, M.H.; Lee, S.; Chung, D.T. (1995) A study on the shear localization behavior of tungsten heavy alloy, Tungsten and Refractory Metals 2, Bose, A.; Dowding, R.J. (Eds.), Metal Powder Industries Federation, Princeton, New Jersey, USA, pp. 463–471.

### **Books**

German, R.M. (1990) Powder Injection Molding, Metal Powder Industries Federation, Princeton, New Jersey, USA.

### **Book Chapter**

Swain, S. K.; Sahoo, G.; Sarkar, N. (2015) “Manufacturing of Chemically Modified Date Palm Leaf Fibre-Reinforced Polymer Composites” In “Manufacturing of Natural Fibre Reinforced Polymer Composites”, Edited by Prof. M. Jawaid Springer International Publishing, pp. 291-308.

### **Thesis**

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

### **Technical Reports**

Zukas, E.G.; Rogers, P.S.Z.; Rogers, R.S. (1976) Experimental evidence for spheroid growth mechanisms in the liquid phase sintered tungsten based composites, Informal Report: Los Alamos Scientific laboratory, USA, pp. 1-35.

### **Patents:**

Oenning, V.; Clark, I.S.R. (1991) Title of the patents, U.S. Patent No.: 4988386.

### **Journals in Non-English Language**

Weihong, L.; Xiuren, T. (1988) Tungsten Matrix in Cu-W Contact Materials by Impregnation Process, *Powder Metall. Technol.*, **6** (8), 1–4. (in Chinese)

### **3.3.5 Appendix or Appendices**

3.3.5.1 Supplementary illustrative material, 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.)

3.3.5.2 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.

#### **4. CONCLUDING REMARKS**

Conclusion part of the thesis is most important part of the thesis. This should include interesting findings of the work. This Thesis Guide lists 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 and figures, etc.

#### **FUTURE SCOPE OF THE WORKS**

Thesis should have a future scope of the works.

By order of President of Society  
**Secretary**

**Multidimensional Educational Technical & Research Society**

