GUIDELINES FOR THE PREPARATION OF Ph. D. THESIS

1. GENERAL

The manual is intended to provide broad guidelines to the research scholars in the preparation of the Thesis. In general, the Thesis shall report, in an organized and scholarly fashion, an account of original research work of the research scholar leading to the discovery of new facts or techniques or correlation of facts already known (analytical, experimental, hardware oriented, etc.). Thesis shall demonstrate a quality as to make a definite contribution to the advancement of knowledge and the research scholar's ability to undertake sustained research and present the findings in an appropriate manner with actual accomplishments of the work.

Instruction

The scholars are expected to read carefully the instructions given in the sequel and meticulously follow them in the preparation of the Thesis. Non-compliance with any of these instructions may lead to the rejection of the Thesis submitted.

2. SIZE OF THESIS

The size of the Thesis should not exceed 300 pages of typed matter reckoned from the first page of Chapter 1 to the last page of the Appendix.

3. ARRANGEMENT OF THE CONTENTS OF THE THESIS

The sequence in which the Thesis material should be arranged and bound as follows:

1. Cover Page and Title page (as shown in Appendix 1)
2. Declaration by the candidate (as shown in Appendix 2)
3. Bonafide Certificate (as shown in Appendix 3)
4. Abstract
5. Acknowledgement
6. Table of Contents (as shown in Appendix 4)
7. List of Tables
8. List of Figures
8. List of Symbols and Abbreviations (as shown in Appendix 5)
9. Chapters
10. Appendices
11. References
12. List of Publications
13. Curriculum Vitae

The Tables and Figures should be included at appropriate places in the text of the Thesis.

4. PAGE DIMENSIONS AND MARGIN

Standard A4 Size (297 mm x 210 mm) paper may be used for preparing the copies. The dimensions of the final bound Thesis (3 copies) report should be 290 mm x 205 mm. Thesis should be bound with black calico cloth and using flexible cover of thick white art paper.

The final thesis (at the time of submission) should have the following margins:

- Top edge : 30 to 35 mm
- Bottom edge : 25 to 30 mm
- Left side : 35 to 40 mm
- Right side : 20 to 25 mm

The Thesis should be prepared on good quality white paper preferably not lower than 80 gsm. Tables and Figures should conform to the margin specifications. Large size Figures should be photographically or otherwise reduced to the appropriate size before insertion.
5. MANUSCRIPT PREPARATION

In the preparation of the manuscript, care should be taken to ensure that all textual matter is typewritten to the extent possible in the same format as may be required for the final Thesis. Hence some of the information required for the final typing of the Thesis is also included in this section.

The heading of all items from 2 to 12 listed in section 3 should be typed in capital letters without function and centered 50 mm below the top of the page. The text should commence 4 spaces below this heading. The page numbering for all items from 1 to 8 should be done using lower case Roman numerals and the pages thereafter should be numbered using Arabic numerals.

Equations may be preferably typed using Microsoft Equation Editor or other Equation Editors.

5.1 Cover Page & Title Page - A specimen copy of the Cover page and Title page for the Thesis is given in Appendix 1.

5.2 Declaration by the Candidate - Typical copy of declaration by the Ph.D candidate is enclosed in Appendix 2.

5.3 Bonafide Certificate - The Bonafide Certificate shall be typed in double line spacing using Font Style Times New Roman and Font Size 13 as per the format shown in Appendix 3.

The certificate shall carry the Supervisor’s signature and shall be followed by Supervisor’s name, academic designation (not any other responsibilities of administrative nature), department and full address of the institution where the Supervisor has guided the research scholar. The term ‘SUPERVISOR’ must be typed in capital letters between the Supervisor’s name and academic designation. Signature of the Joint Supervisor with the details specified as above should be included wherever it is applicable. Other details are shown in Appendix 3.
5.4 **Abstract** - Abstract should be an essay type of narration **not exceeding four pages** outlining the research problem, methodology used for tackling it and a summary of the findings. This shall be typed in **double line spacing using Font Style Times New Roman and Font Size 13**.

5.5 **Acknowledgement** – It should be brief and should **not exceed one page** when typed in double spacing. *The scholar’s signature* shall be made at the bottom right end above his/her name typed in capitals.

5.5 Table of Contents should list all captions following it as well as any caption which precedes it. The title page, Bonafide Certificate and Acknowledgment will not find a place among the items listed in the Table of Contents but the page numbers of which are in lower case Roman letters. One and a half spacing should be adopted for typing the matter under his head. A specimen copy of the Table Contents for the Thesis is given in **Appendix 4**.

5.6 **List of Table** - The list should use exactly the same captions as they appear above the Tables in the text. One and a half spacing should be adopted for typing the matter under this head.

5.7 **List of Figures** - The list should use exactly the same captions as they appear below the Figures in the text. One and a half spacing should be adopted for typing the matter under this head.

5.8 **Tables and Figures** – “Table” means tabulated numerical data in the body of the Thesis as well as in the appendices. All other non-verbal material used in the body of the Thesis and appendices such as charts, graphs, maps, photographs and diagrams may be designated as Figures.

- A Table or Figure including caption should be accommodated within the prescribed margin limits and appear on the page following the page where their first reference is made.
• Tables and Figures on half page or less in length may appear on the same page along with the text. However, they should be separated from the text both above and below by triple spacing.
• All Tables and Figures should be prepared on the same paper or material used for the preparation of the rest of the Thesis.
• Two or more small Tables or Figures may be grouped if necessary in a single page.
• Wherever possible, the photograph(s) shall be reproduced on a full sheet of photographic paper or color Xerox.
• More than one photograph can be included in a page.
• Samples of Fabric, Leather, etc., if absolutely necessary may be attached evenly in a page and fixed/pasted suitably and should be treated as Figures.

5.9 List of Symbols and Abbreviations - One and a half spacing should be adopted for typing the matter under this head. Standard symbols, abbreviations, etc. should be used. The list should be arranged alphabetically with respect to the contents on the right side as shown in Appendix 5.

Chapters - The chapters may be broadly divided into 3 parts:

(i) Introductory chapter
   The introductory chapter will have sections covering: (a) general introduction and importance of the project area, (b) Literature survey, and (c) Objectives of the proposed research project.

(ii) Chapters developing the main theme of the Thesis, Materials and Methods, Results and Discussion
   The main text will be divided into several chapters and each chapter may be further divided into several divisions and sub-divisions.
   ✔ Each chapter should be given an appropriate title.
Tables and figures in a chapter should be placed in the immediate vicinity of the reference where they are cited.

(iii) Conclusions and Scope

5.10 Appendices - Appendices are provided to give supplementary information, which if included in the main text may serve as a distraction and cloud the central theme under discussion.

- Appendices should be numbered using Arabic numerals, e.g. Appendix 1, Appendix 2, etc.

- Appendices, Tables and references appearing in appendices should be numbered and referred to at appropriate places just as in the case of chapters.

- Appendices shall carry the title of the work reported and the same title shall be included in the Table of Contents page also.

- The list of publications (those already published/accepted for publication in Journals and papers presented in Conferences/Symposia) made by research scholar during the period of research, shall be brought in the Appendix titled, as List of Publications and the same shall be reported in the Table of Contents.

5.12 List of References - Any works of other researchers, if used either directly or indirectly, the origin of the material thus referred to at appropriate places in the Thesis should be indicated. The author’s publications during the period of research should not be included in the references and can be separately mentioned as in 5.11. A paper, a monograph or a book may be designated by the name of the first author followed by the year of publication, placed inside brackets at the appropriate places in the Thesis. The citation may assume any one of the following forms.

Examples of Citation

(i) An improved algorithm has been adopted in the literature (Rupf 2009)

(ii) Massey and Mittelholzer (2008) have dealt at length this principle

(iii) The problem of mechanical manipulators has been studied by Anigstein et al.
(2010) and certain limitations of the method used, has been pointed out by Anigstein et al. (2010).

(iv) When reports prepared by well known agencies are cited, the name of the organization (Example: World Health Organization, Bureau of Indian Standards) with year of publication may be given as citation. Ex: World Health Organisation (2006)

The listing should be typed 4 spaces below the heading "REFERENCES" in single spacing. The reference material should be listed in the alphabetical order of the first author. The name of the author/authors should be immediately followed by the other details and year. A typical illustrative list given below relates to the citation example quoted above.

**Examples of references**


5.13 Curriculum Vitae - A vitae restricted to one page in double spacing containing the salient potentialities of the author shall be made at the end of the Thesis.

6. TYPING INSTRUCTIONS

6.1 General
This section includes additional information for final typing of the Thesis. The impressions on the typed/Xeroxed/printed copies should be black in colour. A sub-heading at the bottom of a page must have at least two full lines below it or else it should be carried over to the next page. The last word of any page should not be split using a hyphen. One and a half spacing should be used for typing the general text. The general text shall be typed in Font Style Times New Roman and Font Size 13. One and half spacing should be used for typing:

(i) Long Tables
(ii) Long quotations
(iii) Foot notes
(iv) Multiline captions
(v) References

All quotations exceeding one line should be typed in an indented space - the indentation being 15 mm from either side of the margin.
6.2 Chapters
The format for typing Chapter headings, Division headings and Sub-division headings are explained by the following illustrative examples.

Chapter heading       : CHAPTER 1 INTRODUCTION
Division heading      : 1.1 OUTLINE OF THESIS
Sub-division heading : 1.1.1 Literature Review

The word CHAPTER without punctuation should be centered 50 mm down from the top of the page. Two spaces below, the title of the chapter should be typed centrally in capital letters. The text should commence 4 spaces below this title, the first letter of the text starting 20 mm inside from the left hand margin.

The division and sub-division captions along with their numberings should be left justified. The typed material directly below division or sub-division heading should commence 2 spaces below it and should be offset 20 mm from the left hand margin. Within a division or sub-division paragraphs are permitted. Even paragraph should commence 3 spaces below the last line of the preceding paragraph, the first letter in the paragraph being offset from the left hand margin by 20 mm.

7. NUMBERING INSTRUCTIONS

7.1 Page Numbering
All page numbers (whether it is in Roman or Arabic numbers) should be typed without punctuation on the central bottom of each page. The preliminary pages of the Thesis (such as Title page, Acknowledgement, Table of Contents, etc.) should be numbered in lower case Roman numerals. The title page will be numbered as (i) but this should not be typed. The page immediately following the title page shall be numbered as (ii) and it should appear at the top right hand corner as already specified. Pages of main text, starting with Chapter 1 should be consecutively
numbered using Arabic numerals.

7.2 **Numbering of Chapters, Divisions and Sub-Divisions**

The numbering of chapters, divisions and sub-divisions should be done using Arabic numerals only and further decimal notation should be used for numbering the divisions and sub-divisions within a chapter. For example sub-division 4 under division 3 belonging to chapter 2 should be numbered as 2.3.4. The caption for the sub-division should immediately follow the number assigned to it. Every chapter beginning with the first chapter should be serially numbered using Arabic numerals. Appendices, included if any, should also be numbered in an identical manner starting with Appendix 1.

7.3 **Numbering of Tables and Figures**

Tables and Figures appearing anywhere in the Thesis should bear appropriate numbers. The rule for assigning such numbers is illustrated by an example. Thus, if a Figure in Chapter 3, happens to be the fourth then assign 3.4 to that Figure. Identical rules apply for Tables except that the word Figure is replaced by the word Table. If Figures (or Tables) appear in appendices then Figure 3 in Appendix 2 will be designated as Figure A 2.3. If a table to be continued into the next page this may be done, but no line should be drawn underneath an unfinished Table. The top line of the Table continued into the next page should, for example read Table 2.1 (continued) placed centrally and underlined.

7.4 **Numbering of Equations**

Equations appearing in each Chapter or Appendix should be numbered serially, the numbering should commence afresh for each Chapter or Appendix. Thus for example, an equation appearing in Chapter 4, if it happens to be the eighth equation in that Chapter should be numbered as (4.8) thus:

While referring to this equation in the body of the Thesis it should be referred to as Equation (4.8).
8 BINDING SPECIFICATIONS

Thesis (6 copies) should be bound with black calico cloth and using flexible covers of thick white paper. The cover should be printed in black letters and the text for printing should be identical to what has been prescribed for the title page.

The Sixth copy of the Thesis should be reduced to A5 size with printing in black letters on both sides with hard bound binding in white colour and submitted after the Viva-Voce examination duly certified by the Supervisor and Joint Supervisor, if applicable, with his/her signature that all the correction/ modification suggested by the examiners have been incorporated in the thesis. The fourth copy of the thesis in A5 size should contain the final certificate (as applicable) given in Appendix 6 and a Xerox copy of the minutes of the Oral Examination Board.

These two items should be placed in between the title page and Bonafide certificate.

*Soft copy of the thesis in CD form (2 Nos) should be submitted for University Archives and for any other purpose deemed fit by the authorities.*
A typical Specimen of Cover Page and Title Page

<TITLE>

a thesis submitted by

C. FREEDA CHRISTY (06ZA001)

in partial fulfillment for the award of the degree of

DOCTOR OF PHILOSOPHY

under the supervision of

DR. D. TENSING

and the joint supervision of

DR. R. MERCY SHANTHI

SCHOOL OF CIVIL ENGINEERING

KARUNYA UNIVERSITY

(Karunya Institute of Technology and Sciences)
(Declared as Deemed-to-be-under Sec-3 of the UGC Act, 1956)

Karunya Nagar, Coimbatore - 641 114. INDIA

JANUARY 2012
AN EXPERIMENTAL STUDY ON THE BEHAVIOUR OF REINFORCED AND UNREINFORCED MASONRY WALLS SUBJECTED TO AXIAL AND IN-PLANE SHEAR LOAD

a thesis submitted by
C. FREEDA CHRISTY (06ZA001)
in partial fulfillment for the award of the degree of
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Karunya Nagar, Coimbatore - 641 114. INDIA

JANUARY 2012
APPENDIX 2

DECLARATION

I, C. FREEDA CHRISTY hereby declare that the thesis, entitled “An experimental study on the behavior of reinforced and unreinforced masonry walls subjected to axial and in-plane shear load”, submitted to the Karunya University, in partial fulfillment of the requirements for the award of the Degree of Doctor of Philosophy in Civil Engineering is a record of original and independent research work done by me during the period 2006 – 2011, under the Supervision and guidance of Dr. D. Tensing, Professor, School of Civil Engineering, Karunya University and under the Joint Supervision of Dr. R. Mercy Shanthi, Associate Professor, School of Civil Engineering, Karunya University. The work contained in this thesis has not been previously submitted to meet the requirements for a degree or diploma at this or any other higher education institution.

C. Freeda Christy

Signature of the candidate
Certified that this Thesis titled “An experimental study on the behaviour of reinforced and unreinforced masonry walls subjected to axial and in-plane shear load” is the bonafide work of C. FREEDA CHRISTY who carried out the research under my supervision. Certified further, that to the best of my knowledge the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other scholar.
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LIST OF SYMBOLS AND ABBREVIATIONS

A - Cross sectional area of masonry wall in mm
Ah - Design horizontal seismic coefficient of a structure
D - Depth of the brick in mm
d - Effective depth of the wall in mm
Eb - Elastic modulus of the brick in MPa
F - Flexural strength of the brick in MPa
h - Height of the masonry wall in mm
H - In-plane load in Newtons
l - Length of the wall panel in mm
m - Mass of the building
MgO - Magnesium oxide
PGA(g) - Peak ground acceleration
R - Response reduction factor
s - Spacing of woven wire mesh in mm
t - Thickness of the wall panel in mm
tb - Thickness of the brick unit in mm
URM - Unreinforced masonry
XRD - X-ray diffraction
Z - Zone factor
APPENDIX 6

FINAL CERTIFICATE

1. This is to certify that no corrections/suggestions were pointed out by the Indian/Foreign Examiner(s) in the Thesis titled

…………………………………………………………………………….” submitted by Mr./Ms.……………………………………………………………

(OR)

2. This is to certify that all corrections and suggestions pointed out by the Indian /Foreign Examiner(s) are incorporated in the Thesis titled

“………………………………………………………” submitted by Mr./Ms.……………………………………………………………

JOINT SUPERVISOR

SUPERVISOR

(If applicable)

Place:

Date:
CONTACT DETAILS

CONTROLLER OF EXAMINATIONS

Karunya University
Karunya Nagar-641 114
Coimbatore – Tamil Nadu
PH : (OFF) +91-422- 2614550
Fax : 0422-2614553
Email : coe@karunya.edu