THESIS WRITING GUIDE

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

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PREFACE

This **Thesis Writing Guide** is published by the Centre for Graduate Studies specifically to assist students in writing theses and project reports that are consistent with internationally accepted academic norms in terms of style and format. The specific use of the word **"thesis"** in this guide refers to the academic writings submitted in fulfillment of the requirements for the award of the doctoral degree or the masters by research degree. All discussions in this guide also use the word **"thesis"** to refer to academic writings for the ***undergraduate project (PSM), Master's Project Report*** and ***Research Dissertation for study by mixed-mode***. However, this guide is not meant to provide exhaustive formatting styles for all forms of references. If a specific formatting style is required but is not in this guide, please refer to the 6th Edition of the American Psychological Association Manual.

Centre for Graduate Studies
Universiti Tun Hussein Onn Malaysia
Senate: 21 December 2011

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The Centre for Graduate Studies of Universiti Tun Hussein Onn Malaysia (UTHM) would like to extend its appreciation to the members of staff who contributed their efforts and ideas in the preparation of this fourth edition of the **Thesis Writing Guide**. This manuscript was updated based on the third edition published in 2006. The Centre would also like to thank all parties involved in the publication of the manuscript.

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CHAPTER 1

THESIS STRUCTURE AND CONTENT

1.1 Definition

The specific use of the word "thesis" in this guide refers to the academic writings submitted in fulfillment of the requirements for the award of the doctoral degree or the masters by research degree. The word "thesis" is also used in general to refer to the master's project report and research dissertations, which are the documents submitted in partial fulfillment of the requirements for the award of the degree of masters by coursework or mixed-mode, as well as the undergraduate project reports.

1.2 Structure

A thesis is made up of several sections, arranged in the sequence shown in Table 1.1.

Table 1.1: Sequence of contents

NO.	SECTION	REQUIREMENT	EXAMPLE (APPENDIX)	REMARKS
1	Blank Page	-	-	-
2	Declaration of Thesis Status	Required	A1/ A2/ A3/A4	Unnumbered
3	Examiners' Declaration	Required	B	Unnumbered

Table 1.1 (continued)

NO.	SECTION	REQUIREMENT	EXAMPLE (APPENDIX)	REMARKS
4	Title	Required	C1/ C2/ C3	Unnumbered but considered as (i)
5	Student's Declaration	Required	D1 /D2	Lowercase Roman numeral (ii)
6	Dedication	Optional	E	Lowercase Roman numeral
7	Acknowledgements	Optional	F	Lowercase Roman numeral
8	Abstract	Required	G1a/ G1b/ G2a G2b	Lowercase Roman numeral
9	Contents	Required	H	Lowercase Roman numeral
10	List of Tables	Required	I	Lowercase Roman numeral
11	List of Figures	Required	J	Lowercase Roman numeral
12	List of Symbols and Abbreviations	Required	K	Lowercase Roman numeral
13	List of Appendices	Required	L	Lowercase Roman numeral
14	Text	Required	M	Arabic numeral starting with the page number
15	References	Required	P1/P2	Arabic numeral continued with text
16	Appendices	Optional	-	Arabic numeral continued with text
17	Vita	Required	Q	Unnumbered

1.3 Declaration of thesis status

The status of a thesis must be declared by completing the Thesis Status Form as shown in **APPENDICES A1-A4**. If a thesis is to be classified as confidential or limited, a letter seeking this classification must be obtained from the organisations concerned and submitted to the Dean of the Centre for Graduate Studies, the Dean of the Faculty or related academic centres. The approval letter must state the reasons for and duration of the classification. The typical duration for this classification is three years.

Where an author classifies a thesis as unlimited, the University shall assume that the thesis is non-confidential. Copies of the thesis can be made and used by Universiti Tun Hussein Onn Malaysia.

1.4 Viva voce examination panel

The names of the members of the viva voce examination panel shall be included as shown in **APPENDIX B**. This page is not applicable for the master's project report or the undergraduate project report.

1.5 Title

The title page must contain the following information in the following order:

(i) Title of the thesis;
(ii) Full name of the student;
(iii) Statement on the purpose of the thesis submission;
(iv) Name of the faculty or centre where the student is registered;
(v) Name of the University; and
(vi) The month and year the thesis was written and accepted. Theses for the Master's degree by research and the Doctor of Philosophy degree must be approved by the Graduate Studies Committee (Jawatankuasa Pengajian Siswazah), whilst others must be approved by the relevant committee.
(Please refer to **APPENDICES C1-C3)**

1.6 Declaration

The declaration page contains a statement declaring the originality of the thesis. It must be signed by the author. Please refer to **APPENDICES D1-D2**.

1.7 Dedication (optional)

The dedication message must be concise, must not exceed one paragraph and must not contain any numbers, graphs or figures. Please refer to **APPENDIX E**.

1.8 Acknowledgements (optional)

Acknowledgements must be written on a single page only. Its purpose is to record the author's appreciation for individuals or organisations that provided their assistance either directly or indirectly in the preparation of the thesis. Please refer to **APPENDIX F**.

1.9 Abstract

The abstract is a short summary of the thesis. It should describe the rationale and objectives (problem statement), the methodology, as well as the findings and conclusion of the study undertaken. The abstract must not be longer than 250 words for a Master's thesis or Master's project report and not longer than 350 words for a Doctoral thesis written in two languages, Bahasa Melayu and English. For a thesis written in English, the abstract must be written in English first followed by its Malay translation on the next page. Do not include any literature review, unexplained abbreviations, limitations or suggestions for future research in the abstract. It must be written with a spacing of one and a half (1½) lines. Please refer example abstract for engineering at **APPENDIX G1a** and **APPENDIX G2a** and example abstract for social science at **APPENDIX G1b** and **APPENDIX G2b.**

1.10 Table of contents

The table of contents must begin on a new page. The information is organised by chapter, topic and page number. Every chapter, topic and page number shown in the table of contents must correspond to the same chapter, topic and page number in the thesis. Sub-titles may be displayed up to three levels only. Please refer to **APPENDIX H**.

1.11 List of tables

This page contains a list of all tables presented in the thesis. Information such as table numbers, table captions and the corresponding page numbers where the tables

appear must be shown clearly in the list. The list must be ordered by chapter. Please refer to **APPENDIX I.**

1.12 List of figures

All illustrations included in the text such as maps, charts, drawings, graphs, pictures and photos are considered as 'Figures'. The list of figures contains all the figure numbers, titles and the corresponding page numbers on which they appear. The list of figures must be ordered by chapter. Please refer to **APPENDIX J**.

1.13 List of symbols and abbreviations

This page lists down all the symbols, abbreviations, nomenclature and terminology used in the text. The order of writing them is as follows:

Roman letter	-	alphabetical order
Greek letter	-	alphabetical order
Superscript	-	alphabetical order
Subscript	-	alphabetical order

Please refer to **APPENDIX K**. For further information on spelling and abbreviations, students are advised to refer to the latest edition of the Oxford Advanced Learner's Dictionary published by Oxford University Press.

1.14 List of appendices

This page lists down the appendices included with the thesis. Please refer to **APPENDIX L.**

1.15 Text

Text in the thesis must be organised in titled chapters. The titles must reflect the content of the chapter. Every chapter must begin on a new page. Chapters can be divided into sub-chapters with corresponding sub-titles. Titles and sub-titles must be

numbered. Please refer to **APPENDIX O**.

There is no restriction on the total number of chapters in a thesis. Generally, a thesis will have the following basic structure.

(a) Introduction

This chapter describes the aim, objectives and scope of the research as well as the structure of the thesis.

(b) Literature review

The literature review is a critically written and comprehensive account of the published works on a topic by accredited scholars and researchers. It is directly related to the thesis, providing information on theories, models, materials and techniques used in the research.

c) Methodology

This important chapter explains in detail the samples, instruments, materials, procedures and data gathering methods used in the research.

(d) Data analysis and results

This chapter explains the data analysis techniques and results through written text, figures, tables, and/or other means.

(e) Discussion and conclusions

In this chapter, the writer discusses the results and research findings by comparing them with the previous research work mentioned in the literature review chapter. Conclusions are drawn based on the research findings and their implications. Future works are also discussed.

Students who need to translate their theses are advised to refer to the latest edition of *Gaya Dewan Bahasa dan Pedoman Translasi* published by Dewan Bahasa dan Pustaka.

1.15.1 References in the text

When an information or idea is taken from a source, the author of the source must be acknowledged in the text. References cited in the text must be written according to the style prescribed in **CHAPTER 3: FORMAT OF REFERENCES**.

1.15.2 Tables in the text

All tables must be numbered using Arabic numerals. Table numbers must be linked to the chapter number. For example, the third table appearing in Chapter 4 is numbered, "Table 4.3". The caption for a table is placed 1.5 lines above the table and written in Times New Roman font, size 12 without a period at the end and left justified with single line spacing between lines. The text in the table must be written using Times New Roman font, size 10 and single line spacing between lines. If a table extends beyond the end of a page, its continuation on the next page must, for example, be labeled, "Table 4.3 (continued)". As an example, please refer to Table 1.1 on pages 1-2. If a table is taken from a particular source, the source must be stated at the end of the caption. Please refer to **APPENDIX N**. A table can only be presented after it is cited in the text. All tables that appear in the text must be listed in the list of tables as shown in **APPENDIX I**.

1.15.3 Figures in the text

All figures must be of high quality and numbered using Arabic numerals. Figure numbers must be linked to the chapter number. For example, the third table/graph/chart/etc appearing Chapter 4 is numbered, "Figure 4.3". The caption for a figure is placed 1.5 lines below the table/graph/chart/etc and written in font size 12 without a period at the end with single line spacing between lines. If a figure extends beyond the end of a page, its continuation on the next page must, for example, be labeled, "Figure 4.3 (continued)". If a figure is taken from a particular source, the source must be stated at the end of the caption. Please refer to **APPENDIX N**. A figure is best placed immediately after it is cited in the text. All figures that appear in the text must be listed in the list of figures as shown in **APPENDIX J**. Illustrations in diskettes, on slides or in other similar mediums must be placed inside a specially made pocket attached on the inside back cover of the thesis. Illustrations with large dimensions, such as plans and maps, must be reduced in size to fit into a single page. Illustrations must comply with the following conditions:

1.15.3.1 Photographs

Photographs used as illustration must be affixed in the text using high quality glue or other better techniques.

1.15.3.2 Newspaper and other clippings

A clear and high quality photocopied version of the actual clipping must be used instead of the original.

1.15.3.3 Maps and aerial photographs

Maps and aerial photographs intended to be included in a thesis must have obtained prior written permission from the *Ketua Pengarah Pemetaan Negara* (Director General of National Mapping). Illustrations must be scanned and printed using a high resolution colour printer.

1.15.4 Mathematical equations

Mathematical equations must be numbered using Arabic numerals. Equation numbers must be written at the end of the equation and linked to the chapter number. For example, the numbers (4.3) and (4.4) are given to the third and fourth equations respectively that appear in Chapter 4, as follows:

$$y^2 = 3x^2 + 3xy + C \tag{4.3}$$

$$z = 10x^6 + 9y^5 + 8^4 + 7y^6x^5 + 6y^5x^4 + 5x^4 + 4y^4x^3 + 3y^3x^2 + 2y^2x + yx \tag{4.4}$$

1.16 References

References are the sources referred to when preparing a thesis and cited in the text of the thesis. Thesis writers are required to list down all cited materials in the list

of references (refer to **APPENDIX P1** and **APPENDIX P2)**. The list of references must be prepared according to the format prescribed in **CHAPTER 3: FORMAT OF REFERENCES**.

1.17 Appendices (optional)

The appendix section gives an author the opportunity to include materials that can provide additional information in the text to support the study. These materials include tables, charts, computer programmes and questionnaires. Here are some guidelines for the appendix.

(a) Research data, tables, examples of questionnaires, maps, photos and other materials that are too long to be included in the text or are not directly required to comprehend the text can be included as appendices. Generally, tables and graphics that are more than two pages long should be put in the appendix section.

(b) Appendices are labelled as APPENDIX A, APPENDIX B, etc depending on the type and quantity of the materials. Appendices can also be given specific titles.

1.18 *Vita*

Students must provide a one-page *"Vita"* of themselves to be placed at the end of the thesis after the appendices. This "*Vita*" page is unnumbered. See **APPENDIX Q** for an example of the *"Vita*" page.

CHAPTER 2

SIZE AND FORMAT

2.1 Paper quality and size

Only high quality A4 size (210 mm x 297 mm) white simili paper, weighing 80 grams, may be used for the thesis.

2.2 Margin

The margins should be 4 cm from the left, 2.5 cm from the top, 2.5 cm from the right and 2.5 cm from the bottom, on every page including the cover.

2.3 Page numbering

Number the pages according to the sequence given in Table 1.1. The page number must be written at the top right corner, 1.5 cm from the top and 2.5 cm from the right, measured from the last digit of the page number. The page numbering system must conform to the following rules:

(i) The preface of the thesis, starting from the title page, must be numbered using lower case Roman numerals (i, ii, iii and so on); the text pages and the rest of the thesis must be numbered using Arabic numerals (1, 2, 3, and so on).

(ii) The first page of the thesis, the title page, is an unnumbered page 'i'.

(iii) The first page of Chapter 1 is unnumbered but is considered as page '1'. The same applies to the first page of all the following Chapters, where the first

page is unnumbered but taken into account for the purpose of numbering the subsequent pages.

2.4 Numbering of chapters and sub-chapters

Chapters and sub-chapters must be numbered using Arabic numerals. Chapters are numbered CHAPTER 1, CHAPTER 2, CHAPTER 3, and so on. Sub-chapters are nested, but its numbering is not indented, up to a maximum of 4 levels as in the example shown below:

CHAPTER 2 First level (Chapter number)

2.1 Level 2 (sub-title);

2.1.1 Level 3 (sub-sub-title);

2.1.1.1 Level 4 (sub-sub-sub-title)

If a chapter title or sub-title at any level exceeds a single line, the spacing between the lines must be the same as that of the text. Subsequent sub-chapters beyond the fourth nesting level must be numbered using alphabets. The distance between the title number and the title is one (1) cm irrespective of its nesting level (refer to **APPENDIX R**).

2.5 Typing

The thesis should be typed out on a computer in Times New Roman font, size 12, and using Microsoft Word version 6.0 or later, except for tables and figures (refer to 1.14.2 and 1.14.3). Words in a language that is different from the language of the thesis must be typed in italics. The spacing between text lines should be 1.5 lines. Text should be typed on one side of a paper only.

Chapter titles should be typed with capital letters and centered between the left and right margins. Each chapter must begin on a new page. Chapters and sub-chapters should be titled. Titles should be typed in **bold** without underline. Only the first letter of the first word of a sub-title should be in uppercase.

2.6 Spacing and format

Students must adhere to the following text spacing guidelines:

(i) The spacing between the upper margin and a chapter number is 2.5 cm.

(ii) The spacing between the chapter number and the chapter title is 4 lines.

(iii) The spacing between the chapter title and the first line of text is 2 lines.

(iv) The spacing between a sub-title and the last line of the preceding text is 2 lines.

(v) The spacing between a sub-title and the first line of the following text is 2 lines.

(vi) There should be no spacing between paragraphs.

(vii) Start a sub-title, including its numbering, from the left margin.

(viii) Start the first line of text of the first paragraph below the sub-title without any indent, beginning from the left margin; the following paragraphs should be indented 1.27 cm from the left margin.

(ix) Do not start the first sentence of a new paragraph at the bottom of a page if the space available can only fit one line.

(x) The text should be left justified except for the first line of the first paragraph in a section. (Refer to (viii) above). The author is responsible for removing any excess space between words.

(xi) The spacing between the last line of text and a Table, Figure or Illustration should be 1 line.

(xii) The spacing between a period (.) and the first letter of the next sentence of the same paragraph is at least one (1) character.

(xiii) The spacing after a comma (,) is at least one (1) character.

2.7 Printing of documents

Theses must be typed out using a computer and printed using a laser printer or a printer with an equivalent print quality.

2.8 Letterings and drawings

Letterings and drawings should be clear so that copies made will be of satisfactory quality without any loss of information.

2.9 Maximum number of pages

The maximum number of pages for a thesis is as follows:

Undergraduate Project Report:	should not exceed **100** pages
Master's Project Report and Thesis:	should not exceed **200** pages
Doctor of Philosophy Thesis:	should not exceed **300** pages

These limits **do not include tables, diagrams and other illustrations except appendices**. Students who intend to write a thesis that exceeds the given limit must obtain a written approval from the Dean of the Centre for Graduate Studies or the Dean of the Faculty (for undergraduate reports) by submitting an application through their supervisors.

2.10 Binding

All theses must be bound. A thesis must be temporarily bound (spiral binding) for the purpose of examination, and may only be hard-bound after obtaining the approval of the Graduate Studies Committee or other committee(s) for the related programme.

2.10.1 Cover colour and letterings

For submission to the University, theses must be permanently bound with buckram covers and gold letterings using regular Times New Roman font, size 18. The colour codes for the cover are as follows:

(i)	Doctor of Philosophy Thesis:	Black (585)
(ii)	Master's Thesis:	Moss Green (557)
(iii)	Undergraduate Project Report:	New Blue (550)

2.10.2 Cover

The thesis cover must be of A4 size (210mm x 297mm). The title, author's name and the words 'Universiti Tun Hussein Onn Malaysia' must be written in capital letters on the front cover of the thesis, as shown in **APPENDIX S.**

2.10.3 Spine

The abbreviated name of the University, "UTHM", the author's name, the month and the year the thesis is approved* and the level of study must be stated on the spine, as shown in **APPENDIX T.**

***Date of status confirmation for undergraduate Project Report/Master's Project Report/Master's Thesis/Doctoral Thesis (Refer Appendix A1-A4)**

2.10.4 Trimming

The thesis can only be trimmed by 2.5 mm on each side of the A4 paper during binding.

CHAPTER 3

FORMAT OF REFERENCES

3.1 Introduction

Sources that are referred to in a thesis, whether published or not, must be stated. The source of information must be acknowledged in the text as well as in the reference list. Proper acknowledgement is important because it will help others locate and verify the original sources. Furthermore, proper citation can avoid allegations of plagiarism. Acknowledgements in the text must be linked to the list of reference using the "Author (Date)" system or the "Number (IEEE) Format".

3.2 Author (Date) System

The system is also known as the American Psychological Association (APA) system.

3.2.1 Citing references in the text

A reference can be written in a sentence itself or at the end of a sentence.

(a) In the Author (Date) style, the year of publication must be placed in brackets after the name of the author. For example;

> According to Mohamed (2005), a large proportion of scheduling problems in the various sectors, such as economic and engineering, can be classified with a class of problems known as constrained optimisation.

(b) If a reference is not cited in the sentence itself, the author's name and year of

publication must be written within brackets. For example;

> Therefore, research on effective solution methods for constraint optimisation has become the focus of current research (Mohamed, 2005).

(c) If a source of reference is authored by two people, state both authors' names. For example;

> Maintenance scheduling has been researched for a long time, for example in the generation of power by Kralj & Petrevic (1995)...

(d) If a reference contains three authors, state all three names the first time it is referred to in the text. For the second and subsequent times it is mentioned, state only the first author's name followed by *"et al."* and year. For example;

> A study by Alias, Black & Gray (2002) shows that engineering students have lower spatial visualisation ability than required. Since this ability is important in solving engineering problems, it needs to be improved among engineering students (Alias *et al*., 2002).

(e) For a reference with four or more authors, state only the name of the first author followed by "*et al."* and year.

(f) Use lowercase letters (a, b, c) to differentiate between two or more publications published in the same year by the same author. For example;

> An example of an application that uses a constraint programming language is ILOG Solver by Puget and Albert (1994a). In addition, Puget and Albert (1994b) also found that the use of object is widespread, especially within artificially intelligent programming.

(g) Secondary sources may not be cited. Thesis authors must refer to the original reference source. An example of a secondary source is given below:

> Ali (in Abu, 2000) emphasised that ....

3.2.2 Writing cited information

There are three main ways to acknowledge the source of an idea or information cited in the text, namely (a) quotation, (b) paraphrasing and (c) summarising. The examples that follow are based on the following excerpt:

> Biological time is not only scientifically important, but it also greatly affects the productivity and health of a nation. The cost to the nation's health of working out of phase with our biological clocks is probably incalculable at present. In the short term, poor sleep, gastrointestinal problems, higher accident rate, and social problems are evident. (p. 1000)
> Source: Rajaratnam, S. (2001). Health in a 24-hr society. Lancet, 358, pp. 999 – 1005.

3.2.2.1 Quotation

Words of an author may be quoted exactly by the writer to support an argument. When a direct quotation from a source is taken, it should run into the text with double quotation marks if it is reasonably brief (three (3) or less sentences) with the end-of-sentence period in the normal place.

(a) Emphasis on the writer

To give emphasis to the writer, the author's name is written at the beginning of the sentence. For example;

> Rajaratnam (2001) concluded that, "The cost to the nation's health of working out of phase with our biological clocks is probably incalculable at present." (p. 1000). Furthermore...

(b) Emphasis on the idea

To emphasise the idea, the author's name is written at the end of the sentence. For example;

> A lot of discussion has been made on the cost of working out of phase with our biological clocks. "The cost to the nation's health of working out of phase with our biological clocks is probably incalculable at present" (Rajaratnam, 2001, p. 1000). Therefore, ...

A quotation containing more than three sentences must be set off from the text as a paragraph on its own with 1 cm indent, placing the period at the end of the quoted text with no period after the reference citation page number. Single spacing should be used for block quotations. For example;

> According to a renowned scholar (Rajaratnam, 2001),
>
> > Biological time is not only scientifically important, but it also greatly affects the productivity and health of a nation. The cost to the nation's health of working out of phase with our biological clocks is probably incalculable at present. In the

> short term, poor sleep, gastrointestinal problems, higher accident rate, and social problems are evident. (p. 1000)

3.2.2.2 Paraphrasing

The paraphrasing method is used to acknowledge information taken from the original author by rewording the original text without altering its meaning nor providing the writer's own interpretation. For example;

> Rajaratnam (2001) argues that while the notion of biological time is of scientific importance, it is also economically and socially significant at a national level. He points to the health, productivity and social problems which may be attributed to individuals working "out of phase" with their internal clocks.

3.2.2.3 Summarising

The writer may summarise cited text in his/her own words to present the key points of an author's arguments or ideas, without altering the meaning. For example;

> In his conclusion, Rajaratnam (2001) points to the possible economic and social costs incurred by a nation, when individuals work "out of phase" with their biological clocks.

3.2.3 Writing the reference list

All sources of reference that are cited in the thesis must be listed at the end of the text under the title **"REFERENCES".** Do not use the word "BIBLIOGRAPHY" because it indicates a list of all sources that was referred to including those not cited in the text. The reference list must be in alphabetical order. Two or more sources by one author must be listed in chronological order. For example a 2002 publication by Suradi must be listed before his 2007 publication.

3.2.4 Writing the names of authors

In general, an author's surname (family name) or patronymic name (father's name) is written first followed by the initials of his/her other names. This is a common system used in academic writing internationally. Examples of how to write an author's name are as follows:

(i) Name : John Neville Pavlovic
Written as : Pavlovic, J. N.

(ii) Name : Mohd Noor Abdullah
Written as : Abdullah, M. N.

(iii) Name : Syed Muhammad Naquib Al-Attas
Written as : Al-Attas, S. M. N.

(iv) Name : Malik ibn Anas
Written as : Ibn Anas, M.

(v) Name : Tan Beng Keat
Written as : Tan, B. K.

(vi) Name : Raymond Tan Beng Keat
Written as : Tan, R. B. K.

(vii) Name : Srinivasan Venkataraman
Written as : Venkataraman, S.

(viii) Name : S. N. Gupta
Written : : Gupta, S. N.

(ix) Name : Pretam Singh
Written as : Singh, P.

(x) Name : Yasunori Matsufuji
Written as : Matsufuji, Y.

3.2.5 References from different types of sources

In thesis writing, references can be made to various types of sources. The following examples can be used as a guide in writing the different types of sources in the reference list.

3.2.5.1 Books

The major elements that must be included when an article is taken from a book are as follows:

Author (Year). *Title of book*. Edition. Location: Publisher.

An example of a reference by one author;

Race, P. (2002). *How to Get a Good Degree: Making the Most of Your Time at University*. Buckingham: Open University Press.

An example of a reference by two or three authors;

Creme, P. & Lea, M. R. (2003). *Writing at University*. 2nd ed. Maiden: Open University Press.

Delamont, S., Atkinson, P. & Parry, O. (2004). *Supervising the Doctorate: A Guide to Success*. 2nd ed. Maidenhead: Society for Research into Higher Education & Open University Press.

For publications that have more than one author, the word "and" and "dan" is replaced by the symbol "&". If the book has an editor, the name of the editor must also be written. The general format is as follows:

Editor (Ed.) (Year). *Title of book*. Location: Publisher.

As an example;

Martin, A.M. (Ed.) (1991). *Peat as an Agent in Biological Degradation of Waste*. London: Elsevier.

The page numbers are required if the editor edits part of the book.

As an example;

Lees, R. H. (Ed.) (1974). *Chemical Nomenclature Usage*. Chischester: Ellis Horwood. pp. 314-362.

3.2.5.2 Articles from books

The major elements that must be included when an article is taken from a book are as follows:

Author (Year). Title of article. in Author. *Title of book*. Location: Publisher. Page numbers.

For example;

Sarmani, S. (1987). Pencemaran Radioaktif. in Mohamad, A. B. (Ed.). *Perspektif Persekitaran*. Petaling Jaya: Fajar Bakti. pp. 71 -87.

3.2.5.3 Articles from journals

The major elements that must be included when an article is taken from a journal are as follows:

Author (Year). Title of article. *Title of journal, vol. no.(issue no.),* page numbers.

For example;

Mikac, N. & Branica, M. (1994). Complexation of trialkyllead with diethyldithiocarbonate. *Electroanalysis, 6(2),* pp. 37 – 43.

3.2.5.4 Corporate documents

The general format for corporate documents is as follows:

Name of corporate body (Year). *Title of document.* Location: Publisher.

For example;

Women's Law Center (2002). *Promise Still Owed to the Nation's Young Women*. Washington DC: Women's Law Center.

Engineers Joint Council (1969). *Thesaurus of Engineering and Scientific Terms.* New York: Engineers Joint Council.

If there is an editor, the general format is as follows:

Editor (Ed.) (Year). *Document title.* Location. Publisher.

For example;

Thomas, R. (Ed.) (1978). *Handbook for Authors of American Chemical Society Publications*. Washington, D. C.: American Chemical Society

3.2.5.5 Theses

The major elements that must be included when the information is taken from a

thesis are as follows:

Author (Year). *Title.* Name of institution: Level of thesis.

For example;

Abdullah, M. K. (1989). *Modeling of Swirling Fluidized Bed Hydrodynamic Characteristics.* Universiti Tun Hussein Onn Malaysia: Ph.D. Thesis.

Mat Ali, A. (2008). *Hubungan antara Gaya Pembelajaran Pelajar Kejuruteraan dan Pencapaian Akademik*. Universiti Tun Hussein Onn Malaysia: Master's Thesis.

Mohamed, B. (2008). *Design of Pavement on Soft Soil*. Universiti Tun Hussein Onn Malaysia: Master's Project Report.

3.2.5.6 Proceedings

The general format for writing a reference from a proceeding is as follows:

Author (Year). Title. *Proceeding*. Location: Publisher. Page numbers.

For example;

Alias, M. (2006). The Effects of Teacher Generated Concept Maps on the Learning of Secondary School Physics. *Proc. of the Second Int. Conf. on Concept Mapping*. San Jose. Universidad de Costa Rica. pp. 550-557.

3.2.5.7 Laws

The major elements that must be included when the information is taken from a law article are as follows:

Country (Year). *Name of laws*: Law number.

For example;

Malaysia (1983). *Perintah Monumen Lama dan Tapak Tanah Bersejarah*: P.U.(A)41 1983.

3.2.5.8 Standards

The major elements that must be included when the information is taken from a standard are as follows:

Name of institution (Year). *Name of standard.* Location: Standard number.

For example;

British Standards Institution (1987). *Tongued and Grooved Software Flooring*. London: BS 1297.

3.2.5.9 Patents

The major elements that must be included when the reference is a patent are as follows:

Owner (Year). *Name of patent*. Patent number.

For example;

Lindgren, E. A. (1960). *Screen Room Air Inlet and Wave Guard*. U.S. Patent 2, 925, 457.

3.2.5.10 Commercial catalogues

The major elements that must be included when the information is taken from a catalogue are as follows:

Producer (Year). *Title*. Location: Note.

For example;

Howick Partitioning Ltd. (1984). *Howick: Partitioning in Business*. Redhill (U.K.): Trade Brochure.

3.2.5.11 Measured technical drawings / map

The major elements that must be included when information is taken from:

(a) Measured technical drawing

Author (Year). *Title*. Location. Reference number. Note.

For example;

Sulaiman, Z. (2006). *Double Story Buildings: Perspective View.* Universiti Tun Hussein Onn Malaysia. LT10-2006. Technical Drawing.

(b) Map

Author (Year). *Title [map]*. Location. Publisher

For example;

Derbysgire, E. et al. (2000). *Glacier map of Tasmania. [Map]*. London: Royal Georgraphical Society.

3.2.5.12 Newspaper clippings

The major elements that must be included when an article is taken from a newspaper are as follows:

Author (Date). Title of article. *Name of newspaper*. Page numbers.

For example;

Latiff, A. B. A. (2001, Februari 14). Hatinya telah dimiliki. *Utusan Mingguan*. p. 12.

3.2.5.13 Translated sources

The elements that must be included when information is taken from a translated source are as follows:

Original author's name. (Year of translation). *Title of book* (Name of translator, Trans.). Place of publication: Publisher. (Original work published Date)

For example;

Freud, S. (1970). *An outline of psychoanalysis* (Strachey, J., Trans.). New York: Norton. (Original work published 1940)

3.2.5.14 Unpublished sources

Unpublished sources used in a thesis should be stated with the word "Unpublished" added at the end.

3.2.5.15 Interviews

Interviews are not considered to be recoverable data, so no reference to interviews should be provided in the reference list. You may, however, cite the interview within the text as a personal communication. For example;

> ...students are not interested in community services (Hassan, A. R., personal communication, August 15, 2006)

3.3 Reference to electronic sources

The internet provides a vast opportunity for obtaining information. All Internet information obtained from sources that are cited in the text must be duly acknowledged in the text as well as in the reference list.

3.3.1 Citing references in the text

When quoting from an Internet source, use page number if available. If page numbers are not available, use other identifying information such as paragraph number. For example;

> It was concluded that, "The cost to the nation's health of working out of phase with our biological clocks is probably incalculable at present." (Rajaratnam, 2001, para. 23).

If paragraph number is not available, state the heading of the section from which the quotation is taken and count the paragraphs starting from the heading to the paragraph containing the quotation. For example;

> It was concluded that, "The cost to the nation's health of working out of phase with our biological clocks is probably incalculable at present." (Rajaratnam, 2001, Results, para. 3).

An example of the reference list system “Author (Date)” is given in APPENDIX P1.

3.4 Number System

3.4.1 Citing references in the text

All references mentioned in the text should be numbered using Arabic numerals. The first reference is given the number 1, the second reference given the number 2 and so on. One of the following methods can be used:

i) If the author's name is written as part of a sentence, then the reference number should be placed in square brackets "[ ]" after the name of the author as in the following example:

According to Rajaratnam [1], the practice of working at hours that conflict with our biological clocks may lead to health disorders and losses for the country that cannot be assessed at this time.

ii) If the author’s name is not part of a sentence, then the reference number should be included in square brackets "[]" at the right places, as in the following example:

The study [1] shows that engineering students have a lower ability to visualise space than they should. Because this ability is important in solving engineering problems, it should be improved among students of engineering [2].

3.4.2 Writing styles for different types of publications in the reference list

The methods of writing the references in the list are as follows:

i) Books

Writer. Title. Edition (if not the first). *Place of publication*. Publisher. Year.

Example:

Hornby, A.S.. *Oxford Advanced Learner’s Dictionary of Current English.* 2nd Ed. Oxford: Oxford University Press. 1994

ii) Articles in Books

Writer. Title of article. In: The author of the book. *Titles.* Place of Publication: Publisher. Page numbers; year

Example:

Sarmani, S. Radioactive contamination. In: Mohamad, A. B. (Ed). *Environmental Perspectives*. Petaling Jaya: Fajar Bakti. pp. 71-87; 1987.

iii) Articles in Journals

Writer. Title of article. *Title of journal*. Year. Volume number (issue number): Page numbers.

Example:

Mikac, N. and Branica, M. Complexation of trialkyllead with diethyldithiocarbonate. *Electroanalysis.* 1994. 6(2): 37 – 43.

iv) Articles in Proceedings

Writer. Title of article. *Name of conference*. Date of conference. Place of publication: Publisher. Year. Page numbers.

Example:

Alias M. The effect of teacher generated concept maps on the learning of secondary school physics. *Second Int. Conference on Concept Mapping*. San Jose, Costa Rica: Universidad de Costa Rica. 2006. pp. 550-557.

v) Theses

Writer. *Title of thesis*. Level of thesis. Name of institution; year.

Example:

Abdullah, M. K. *Modeling of Swirling Fluidized Bed Hydrodynamic Characteristics.* Ph.D. Thesis. Universiti Tun Hussein Onn Malaysia; 2008.

vi) Standards

Name of institution. *Name of standard*. Place of publication, standard number. Year.

Example:

British Standards Institution. *Tongued And Grooved Software Flooring*. London, BS 1297. 1987

vii) Patents

Owner's name. *Name of patent*. Patent number. Year.

Example:

Lindgren, E. A. *Screen Room Air Inlet and Wave Guard*. U.S. Patent 2, 925, 457. 1960.

viii) Commercial Catalogues

Name of distributor. *Title*. Place of publication: Note. Year.

Example:

Howick Ltd partitioning. Howick: *Partitioning in Business*. Redhill (U.K.): Trade Brochure. 1984.

ix) Measured technical drawings

Name. *Title*. Place of publication: Note. Year.

Example:

Solomon, Z. Building Level Two: *Perspective Views*. Universiti Tun Hussein Onn Malaysia: Painting Technique. 2006.

x) Internet

Author Name. (Year). *Title [electronic version]*. Sub-title (if any). Retrieved on Month Day, Year, from URL

Example:

Wordnet (2006). *WordNet Search – 2.1*. Retrieved on November 30, 2006, from http://wordnet.princeton.edu

If a DOI is provided, use it instead of the URL. Example of a reference with a DOI is given bellow.

Kinchin, I. (2006). Developing PowerPoint handouts to support meaningful learning. *British Journal of Educational Technology,* 0(0). Retrieved August 23, 2007, from doi: 10.1111/j.1467-8535.2006.00536.x

In the reference list, the reference numbers in the text are listed in ascending order. An example of a reference list using the number system is given in Appendix P2.

REFERENCES

American Psychological Association (2011). *What's New in the Sixth Edition of the Publication Manual*. Retrieved from http://www.apastyle.org

American Psychological Association (2004*). Publication Manual of the American Psychological Association.* 5th edition. Wisconsin, USA: George Banta Comp.

British Standard Institution (1990). *British Standard Recommendations for the Presentation of Theses and Dissertation*. London: BS4821.

Dewan Bahasa dan Pustaka (1990). *Gaya Dewan Bahasa*. Kuala Lumpur.

Hornby, A.S. (1994). *Oxford Advanced Learner's Dictionary of Current English.* Oxford: Oxford University Press

Modern Language Association (1977*). MLA Handbook for Writers of Research Papers, Theses and Dissertations.* New York: Modern Language Association.

Turabian K. L. (1973). *A Manual for Writers of Term Papers, Theses and Dissertations.* 4th edition. Chicago: University of Chicago Press.

Universiti Kebangsaan Malaysia (2004). *Panduan Menulis Tesis*. Pusat Pengajian Siswazah.

Universiti Teknologi Malaysia (1989). *Panduan Penulisan Tesis Untuk Pelajar UTM*. Perpustakaan Sultanah Zanariah.

WordNet (2006). *WordNet Search – 2.1*. Retrieved November 30, 2006, from http://wordnet.princeton.edu

APPENDIX A1

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

STATUS CONFIRMATION FOR UNDERGRADUATE PROJECT REPORT

MODELLING OF SWIRLING FLUIDIZED BED HYDRODYNAMIC CHARACTERISTICS

ACADEMIC SESSION : 2007/2008

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Approved by,

(WRITER'S SIGNATURE) (SUPERVISOR'S SIGNATURE)

Permanent Address:

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86400 PARIT RAJA

BATU PAHAT, JOHOR

Date : _____ Date: _____

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APPENDIX A2

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

STATUS CONFIRMATION FOR MASTER'S PROJECT REPORT

MODELLING OF SWIRLING FLUIDIZED BED HYDRODYNAMIC CHARACTERISTICS

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Approved by,

(WRITER'S SIGNATURE) (SUPERVISOR'S SIGNATURE)

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APPENDIX A3

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

STATUS CONFIRMATION FOR MASTER'S THESIS

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Approved by,

(WRITER'S SIGNATURE) (SUPERVISOR'S SIGNATURE)

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APPENDIX A4

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

STATUS CONFIRMATION FOR DOCTORAL THESIS

MODELLING OF SWIRLING FLUIDIZED BED HYDRODYNAMIC CHARACTERISTICS

ACADEMIC SESSION : 2007/2008

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☐	RESTRICTED	(Contains restricted information as determined by the Organization/institution where research was conducted)
☐	FREE ACCESS	

Approved by,

(WRITER'S SIGNATURE) (SUPERVISOR'S SIGNATURE)

Permanent Address:

NO2, TAMAN WIRA,

86400 PARIT RAJA

BATU PAHAT, JOHOR

Date : _____ Date: _____

NOTE:

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APPENDIX B

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This thesis has been examined on date ……

and is sufficient in fulfilling the scope and quality for the purpose of awarding the Degree of Doctor of Philosophy.

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Chairperson:

PROF. DR. ABDUL AZIZ BIN DATO' ABDUL SAMAD
Faculty of Civil and Environmental Engineering
Tun Hussein Onn University of Malaysia

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Examiners:

PROF. DR. MUHAMMAD RASHID BIN RAJUDIN
Faculty of Education
Universiti Teknologi Malaysia

PROF. DR. ZAKARIA BIN KASA
Faculty of Education
Universiti Putra Malaysia

PROF. MADYA DR. MAIZAM BINTI ALIAS
Faculty of Technical Education
Tun Hussein Onn University of Malaysia

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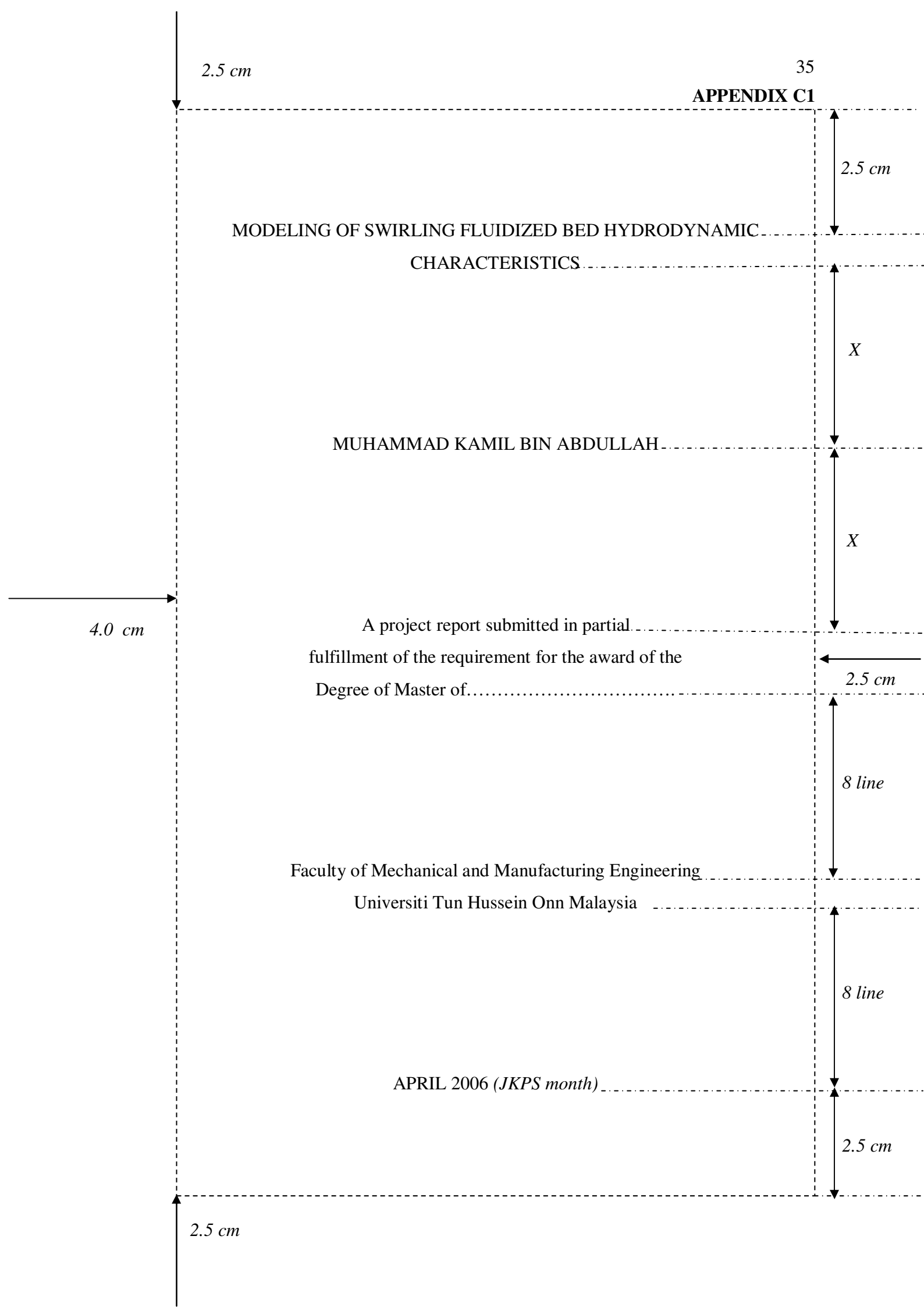
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APPENDIX C1
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CHARACTERISTICS
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Degree of Master of……
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Universiti Tun Hussein Onn Malaysia
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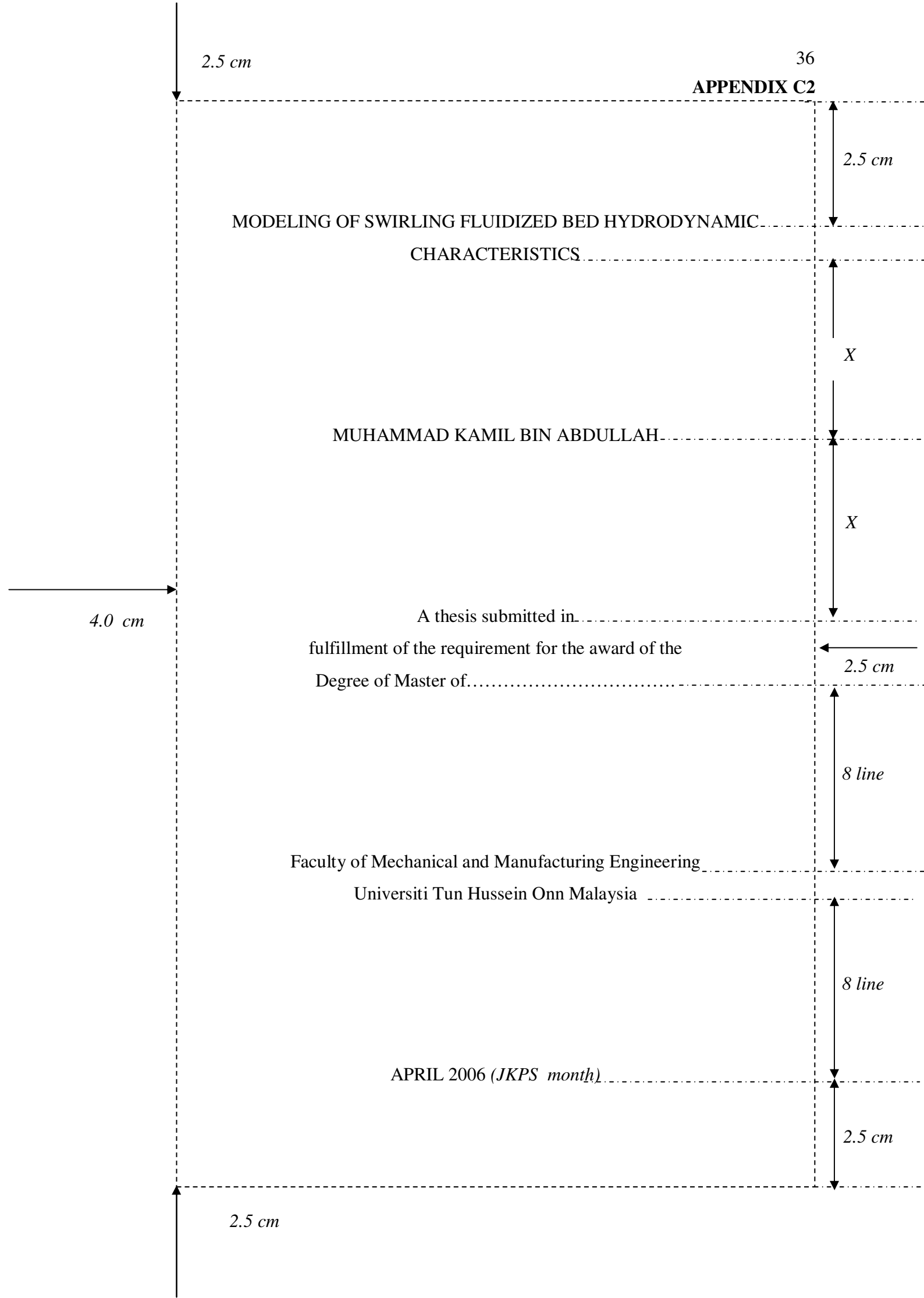
APPENDIX C2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fulfillment of the requirement for the award of the
Degree of Master of……
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Faculty of Mechanical and Manufacturing Engineering
Universiti Tun Hussein Onn Malaysia
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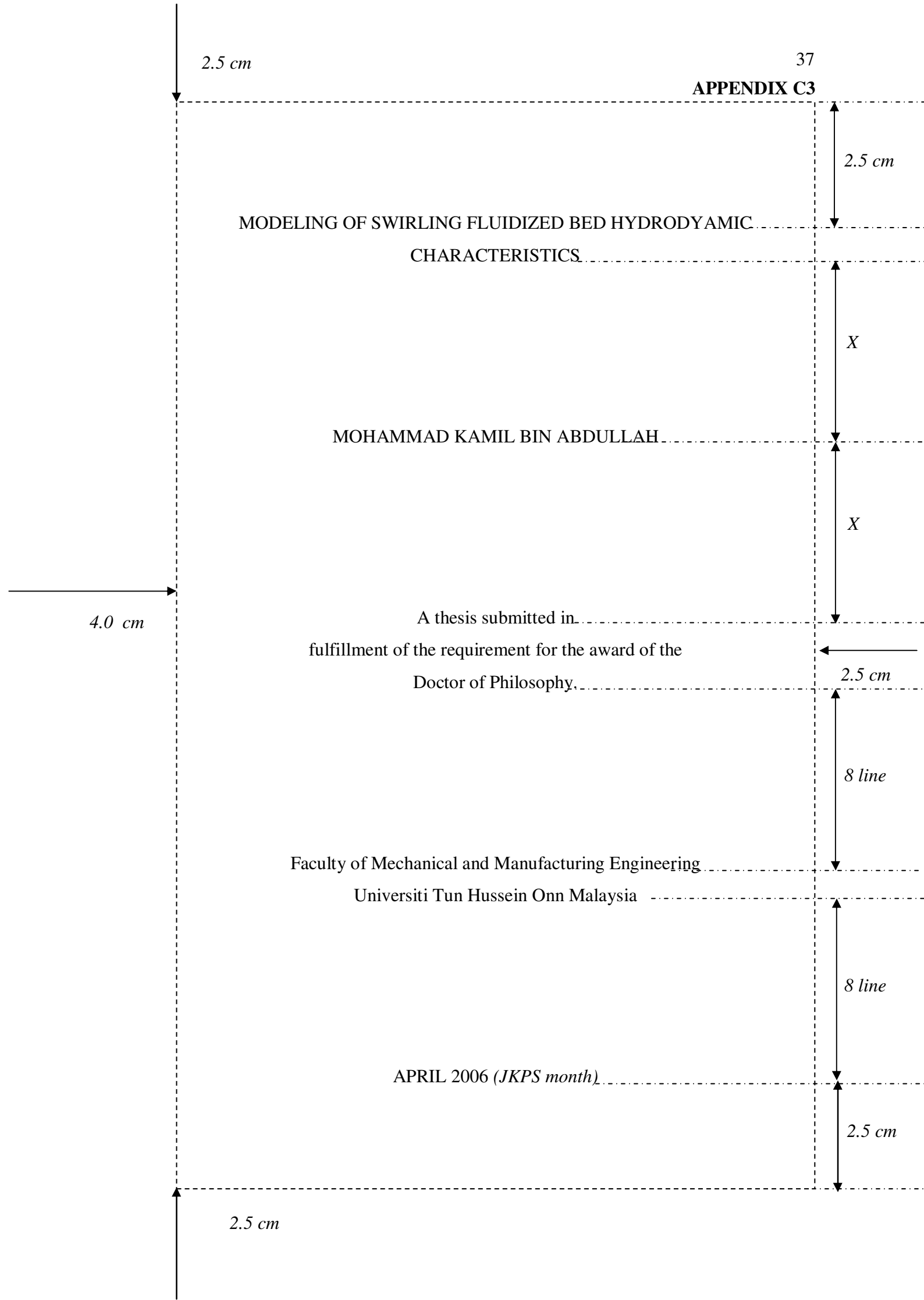
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fulfillment of the requirement for the award of the
Doctor of Philosophy.
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Faculty of Mechanical and Manufacturing Engineering
Universiti Tun Hussein Onn Malaysia
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APPENDIX D1

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I hereby declare that the work in this project report is my own except for quotations and summaries which have been duly acknowledged.

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Student : ……

YUSUF BIN MOHAMMAD ALI

Date : ……

8 line

Supervisor : ……

Write name of supervisor here

4 line

Co Supervisor : ……

Write name of co-supervisor here

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APPENDIX D2

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I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged

4 line

Student : ……

SITI SARAH BINTI MUHAMMAD

Date : ……

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Supervisor : ……

Write name of supervisor here

4 line

Co Supervisor : ……

Write name of co-supervisor here

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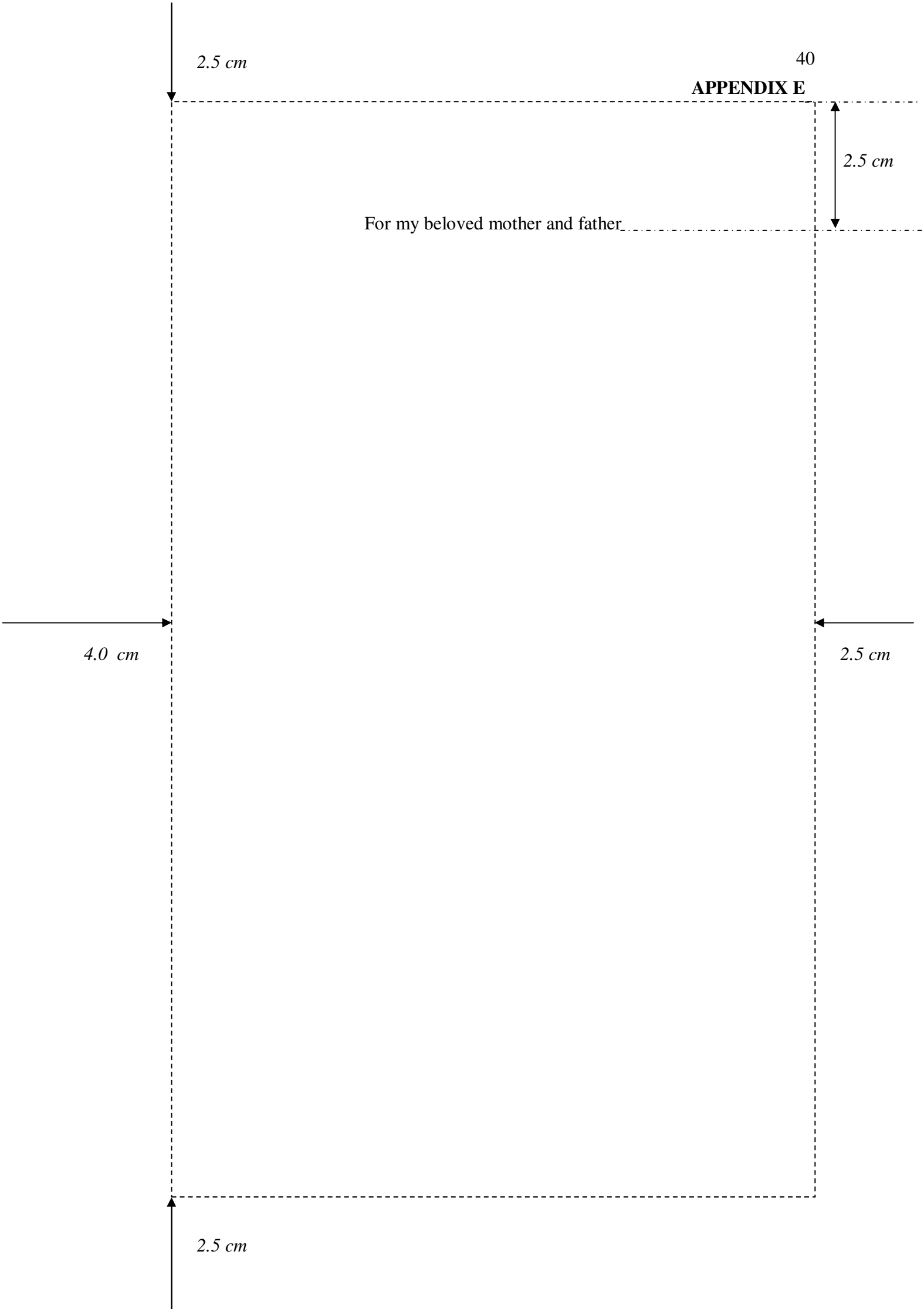
APPENDIX E



APPENDIX F

ACKNOWLEDGEMENT

The author would like to express his sincere appreciation to his supervisor, Prof. Dr. Mohamad Nor bin Husain for the support given through out the duration for this research.

The cooperation given by the Department of Water Resources Johor is also highly appreciated. Appreciation also goes to everyone involved directly or indirectly towards the compilation of this thesis. Last but not least,……

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APPENDIX G1a

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ABSTRACT

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Spiral catalyst substrate is one of the substrate types for catalytic converter and has high geometric surface area. It is to provide support structure in which the washcoat and the catalyst are applied. Currently, an issue of considerable interest in producing the substrate from a thin sheet metal with a thickness 0.11mm and using FeCrAl material has become a trend. Existing patented apparatus overseas use a complicated system and specific details are scarce. Therefore, this research presents the works in designing and developing an innovative apparatus based on a systematic approach of Pahl and Beitz's model of design process. Furthermore, Finite Element Method (Dynaform) was applied for the forming analysis of a trapezoid cell of corrugation on a thin sheet metal and spiral shape of corrugated sheet metal. These works provide the conceptual designs for the apparatus of Corrugated Tool for corrugation process and Spiral Tool for spiral process. The selected conceptual design was established by developing a model of the apparatus. A rule of thumb for requiring unloaded diameter of corrugated sheet metal in spiral shape was derived. Forming Limit Diagram (FLD) shows that the thin sheet metal was successfully formed without any cracking and Thickness Diagram shows that the thickness of the formed thin sheet metal was in safe thickness. The springback effect that occurs during the sheet metal in spiral shape was solved using the developed casing. The designed apparatus of Corrugated Tool and Spiral Tool were fabricated and optimization was performed by producing the spiral catalyst substrate. The innovative apparatus for producing the full scale of spiral catalyst substrate were successfully designed and developed.

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APPENDIX G1b

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ABSTRACT

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The development of the NOSS-based training system and the National Dual Training System (NDTS) as different entities had caused confusion and raised concerns on the future direction and position of the national skills training system in Malaysia. The basic purpose of the study was to examine how they had evolved in order to determine their key characteristics and parameters, and to examine their comparability and ultimately to ascertain whether there was a basis for their integration within the country's national skills training system. The study adopted the interpretive qualitative research design which was premised on the phenomenological approach. For data collection, it employed interviews of key participants in both training systems, review of documents including unpublished official records, case studies and sector study. The development of the training systems were examined utilising analytical dimensions which covered the purpose of training, policy framework, delivery mechanism and work context. The two training systems showed strong convergence in almost all these dimensions. From the investigation, five major themes emerged, namely strong commonalities between the two training systems; fundamental limitations in each of the training systems; well established, existing work-based foundation; the need for a dynamic NOSS-based training system; and the need for re-aligning the NDTS closer to the work context in Malaysia. Based on these themes, the study contended that the NOSS-based training system and the NDTS should no longer be kept separate. Their integration into a unified system can be realized through a framework which meets various key requirements; is conceptually feasible; and involves three main phases of consolidating the existing training systems that include making the NOSS-based training system more dynamic and the NDTS more flexible.

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APPENDIX G2a

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ABSTRAK

Spiral catalyst substrate adalah salah satu daripada jenis-jenis *substrate* yang digunakan untuk *catalytic converter* dan mempunyai luas permukaan geometri yang tinggi. Ianya adalah untuk memberi struktur sokongan dimana *washcoat* dan *catalyst* akan ditempatkan. Pada masa ini, isu-isu yang mendapat perhatian dalam membuat *substrate* daripada kepingan logam nipis dengan ketebalan 0.11mm dan menggunakan bahan FeCrAl telah menjadi kebiasaan. Beberapa alatan sedia ada yang telah dipatenkan di luar negara menggunakan sistem yang berselirat dan perincian tidak diberikan sepenuhnya. Oleh itu, penyelidikan ini mempersembahkan tugasan dalam merekabentuk dan membangunkan alatan yang inovatif berdasarkan pendekatan yang sistematik model *Pahl dan Beitz's* untuk proses merekabentuk. Tambahan pula, Kaedah Unsur Tidak Terhingga (Dynaform) telah digunapakai untuk analisis pembentukan alunan sel berbentuk trapezoid pada kepingan logam nipis dan bentuk lingkaran kepingan logam yang telah dialunkan. Kerja-kerja ini memberikan gambaran untuk konsep rekabentuk untuk alatan *Corrugated Tool* untuk proses alunan dan *Spiral Tool* untuk proses lingkaran. Konsep rekabentuk yang telah dipilih dimulakan dengan membangunkan model alatan tersebut. *Rule of thumb* untuk mendapatkan diameter tanpa beban kepingan logam yang telah dialunkan dalam bentuk lingkaran telah diperolehi. Rajah Pembentukan Tidak Terbatas (FLD) menunjukan bahawa kepingan logam nipis telah berjaya dibentuk tanpa sebarang koyak dan Rajah Ketebalan menunjukan bahawa ketebalan kepingan logam yang dibentuk adalah dalam keadaan selamat. Kesan *springback* yang berlaku semasa kepingan logam dalam bentuk lingkaran telah diselesaikan dengan meletakkan *spiral catalyst substrate* dalam bekas yang dibuat. Alatan yang telah direkabentuk iaitu *Corrugated Tool* dan *Spiral Tool* dibangunkan dan kesempurnaan telah dijalankan dengan memhasilkan *spiral catalyst substrate*.

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APPENDIX G2b

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ABSTRAK

Pembangunan sistem latihan berasaskan Standard Kemahiran Pekerjaan Kebangsaan (SKPK) dan Sistem Latihan Dual Nasional (SLDN) sebagai entiti berlainan telah menimbulkan kekeliruan dan mengakibatkan kesangsian terhadap halatuju dan kedudukan masa depan sistem latihan kemahiran nasional Malaysia. Kajian ini bertujuan untuk menyelidik bagaimana kedua-dua sistem latihan tersebut telah dibangunkan agar ciri dan sifat mereka dikenalpasti, dan seterusnya dibandingkan bagi menentukan keperluan dan asas untuk mengintegrasikan kedua-dua sistem. Kajian menggunakan rekabentuk kualitatif interpretif yang berteraskan kepada pendekatan fenomena. Data diperolehi melalui temubual para peserta penting dalam kedua-dua sistem latihan, kajian dokumen termasuk rekod rasmi, kajian kes dan kajian sektor. Pembangunan sistem latihan diselidik berteraskan dimensi analisis yang meliputi tujuan latihan, kerangka dasar, mekanisme penyampaian dan konteks kerja. Kajian ini mendapati bahawa kedua-dua sistem latihan mempunyai persamaan yang tinggi dalam hampir semua dimensi analisis ini. Daripada kajian, lima tema utama telah dikenalpasti iaitu bahawa kedua-dua sistem mempunyai banyak persamaan; terdapat kelemahan asas dalam setiap sistem; wujudnya sistem latihan berasaskan pekerjaan yang kukuh; perlunya sistem latihan berasaskan SKPK yang lebih dinamik; dan perlunya SLDN yang lebih selari dengan konteks kerja di Malaysia. Berasaskan kepada tema-tema ini, dirumuskan bahawa sistem latihan berteraskan SKPK dan juga SLDN tidak wajar wujud secara berasingan. Integrasi sistem dapat direalisasikan melalui suatu kerangka yang memenuhi beberapa keperluan utama; berteraskan konsep yang boleh diterima; serta melibatkan tiga fasa pengukuhan termasuk membentuk sistem latihan berasaskan SKPK yang lebih dinamik dan SLDN yang lebih fleksibel.

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APPENDIX H

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CONTENTS

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APPENDIX I

LIST OF TABLES

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APPENDIX J

LIST OF FIGURES

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APPENDIX K

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LIST OF SYMBOLS AND ABBREVIATIONS

4 line

D, d	-	Diameter
F	-	Force
G	-	Gravity = 9.81 m/s
I	-	Momen of Iner
l	-	Length
m	-	Mass
P	-	Pressure
Q	-	Rate of Flow
r	-	Radius
T	-	Torque
Re	-	Reynold Number
V	-	Velocity
x	-	Shift
Z	-	High
θ	-	Angle
UTHM		- Universiti Tun Hussein Onn Malaysia
UNESCO		- United Nation for Education, Science and Cultural Organization

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APPENDIX L

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LIST OF APPENDICES

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APPENDIX	TITLE	PAGE
A	Thesis Status Approval Form	29
B	Examiner Approval	30
C	Title Page	31
D	Thesis Purpose Statement	32
E	Declaration Page	33
F	Example of Dedication Page	34
G	Example of Acknowledgement Page	35
H	Example of List of Tables	36
I	Example of List of Figures Page	37
J	Example of List of Symbols/Abbreviations/ Nomenclature/Meaning Page	38
K	Example of List of Appendix Page	39

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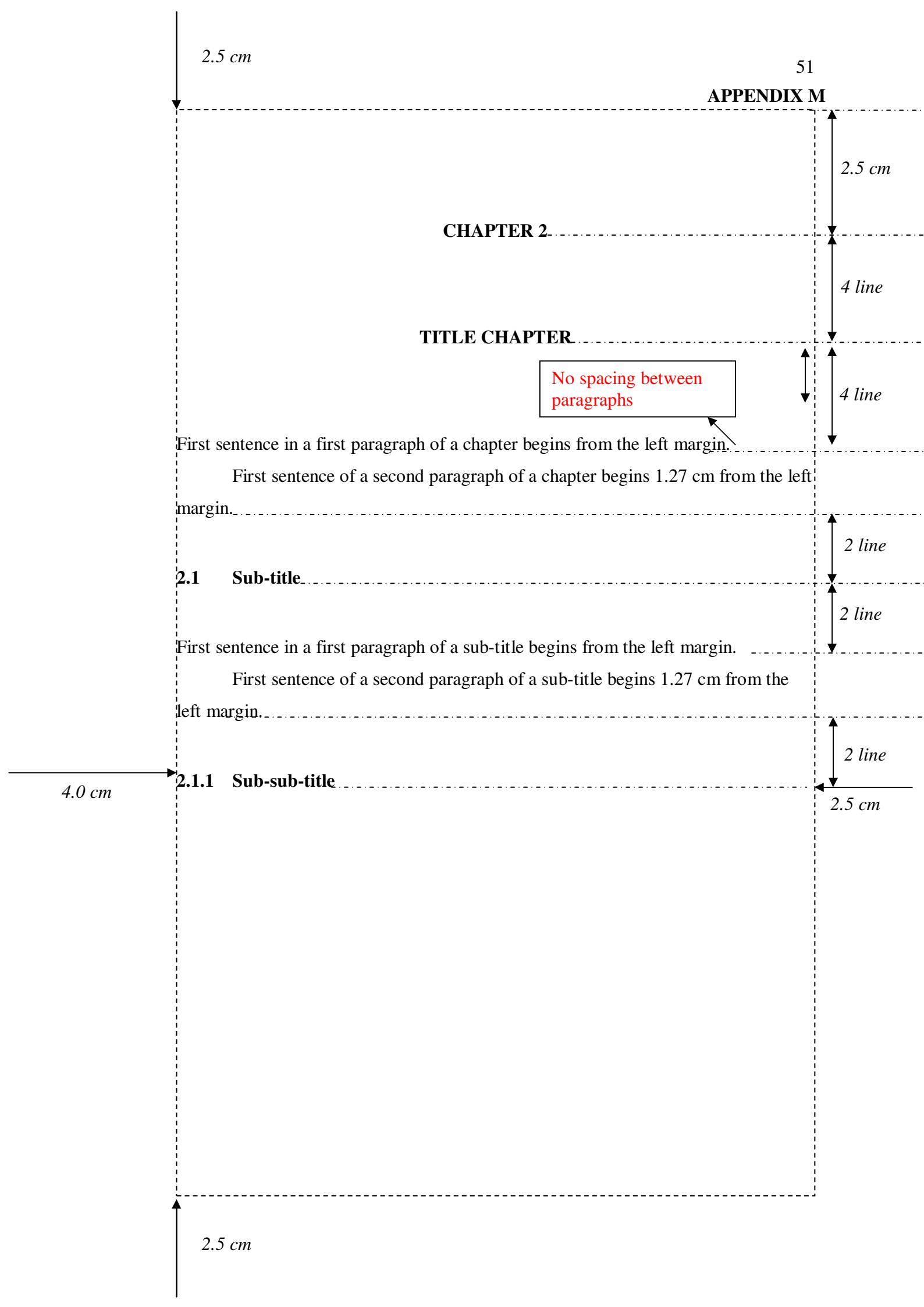
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APPENDIX N

Writing in the table should use Times New Roman point size 10 with one (1) spacing between rows. If the table more than one page, the connection on the following pages should be labeled with "Table 4.3 (continued).” As an example, please refer to Table 4.3. If the table is taken from a particular source, the source should be stated at the end of the table title. See examples in Appendix N. Tables can only be placed after referred to in the text.

Table 4.3: Comparison between lab and simulation computer result.
(Gist, Schwoerer and Rosen, 1989)

Length Ratio	Lab Experiment in Average	Comparison Simulation in Average
0.125	0.25	0.137
0.250	0.46	0.560
0.375	0.63	0.738
0.500	0.75	0.861
0.625	0.83	0.939
0.750	0.88	0.981
0.875	0.93	0.997
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APPENDIX O

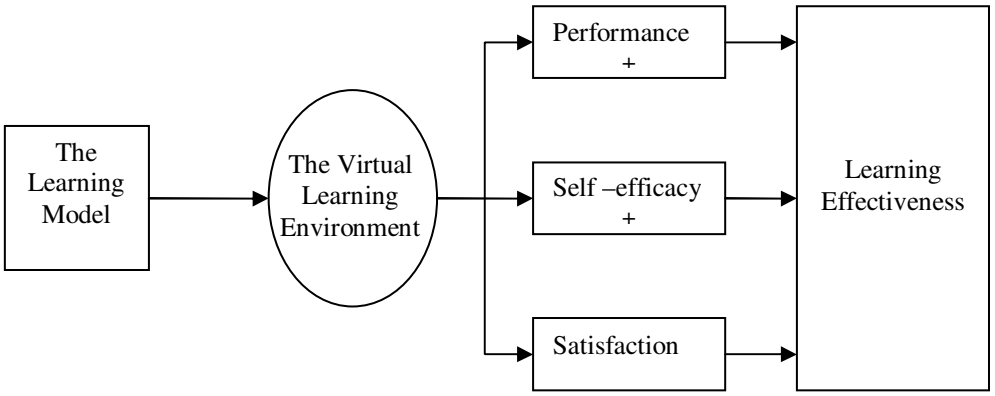

Figure 4.4: Model of the Effectiveness Virtual Learning Environments (Gist, Schwoerer and Rosen, 1989)

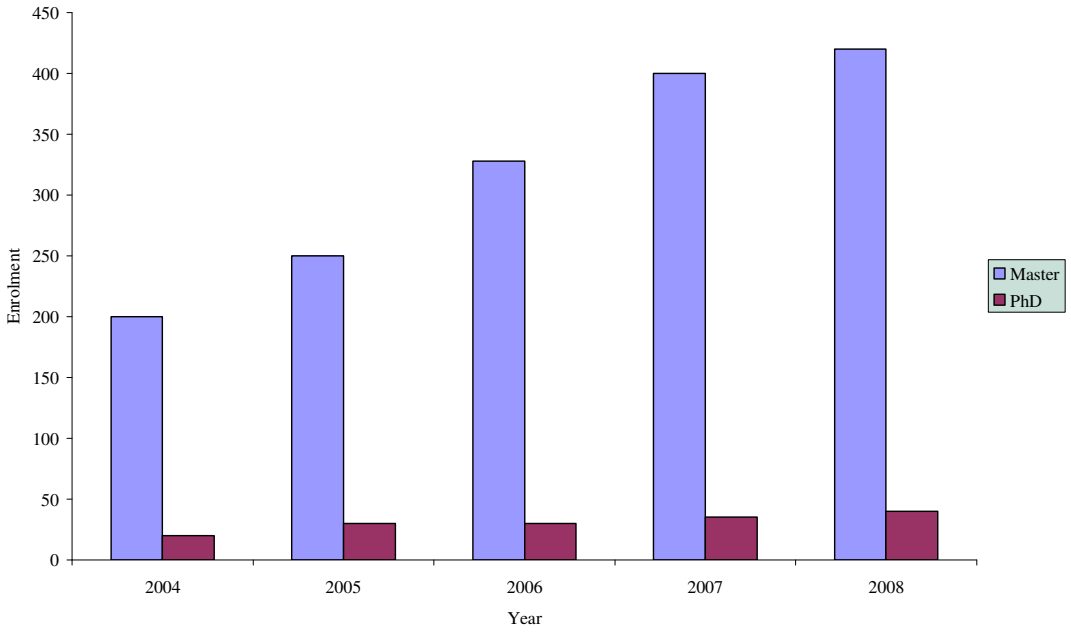

Figure 4.4: Students enrolment from 2004 to 2008 at Pusat XYZ, Kajang, Selangor.

APPENDIX P1

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APPENDIX P2

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REFERENCES

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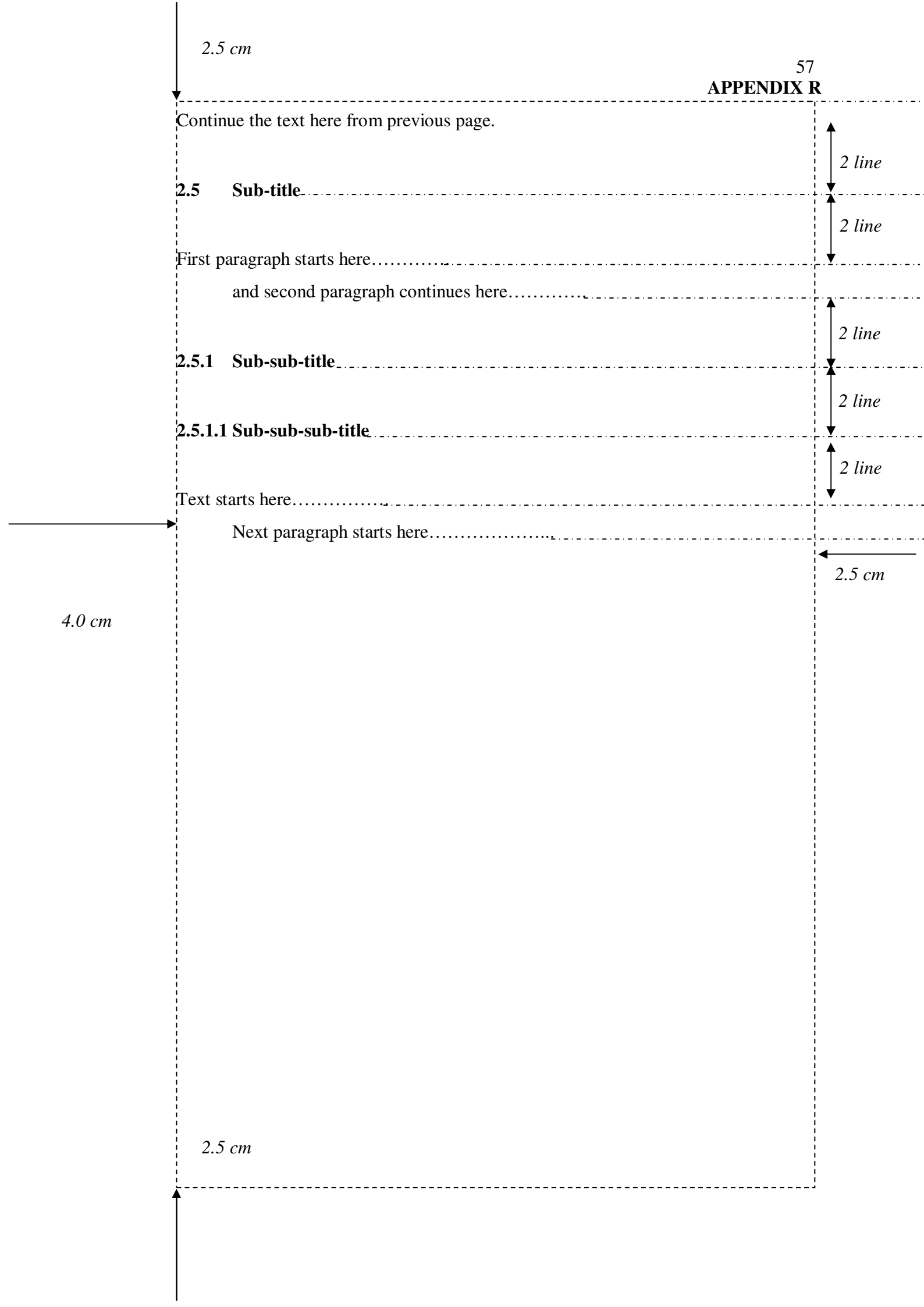
APPENDIX Q

VITA

The author was born in January 28, 1970, in Malacca, Malaysia. He went to Maktab Rendah Sains MARA, Muar, Johor, Malaysia for his secondary school. He pursued his degree at the University of Sheffield, England, and graduated with the B.Eng. (Hons) in Electronic and Electrical Engineering in 1992. Upon graduation, he worked as a tutor in the Electronics Department at University Kebangsaan Malaysia, Malaysia. He then enrolled at the University of Sheffield, England, in 1994, where he was awarded the M. Eng. in Microwave Communications Engineering in 1996. Thereafter, he taught Electromagnetic Theory as well as Microprocessor Design and Applications at the Electrical, Electronic, and Systems Engineering Department at the Universiti Kebangsaan Malaysia, Malaysia. In 1999, Mr. Abdullah attended the Graduate School of The Pennsylvania State University and was admitted into the Ph.D. program in Electrical Engineering in 2004. During this time, he was a research assistant with the Communications and Space Sciences Laboratory (CSSL), where he had 3 million dollar University Research Initiative sponsored by the Office of Naval Research. He participated in four campaigns in Fairbanks, Alaska, to make low frequency measurements of the high-latitude ionosphere, using the High Power Auroral Simulation (HIPAS) ionospheric heater facility. He was also a teaching assistant with the Electrical Engineering Department of The Pennsylvania State University in 2000. Mr. Abdullah has co-authored three papers in areas of Microprocessor Applications and Theoretical and Experimental aspects of ionospheric heating. He is currently a member of the Institute of Electrical and Electronics Engineering (IEEE). He is also an active amateur radio operator holding callsigns N3FLX and 9M2DX with much interest in satellite, moonbounce, and packet communications.

APPENDIX R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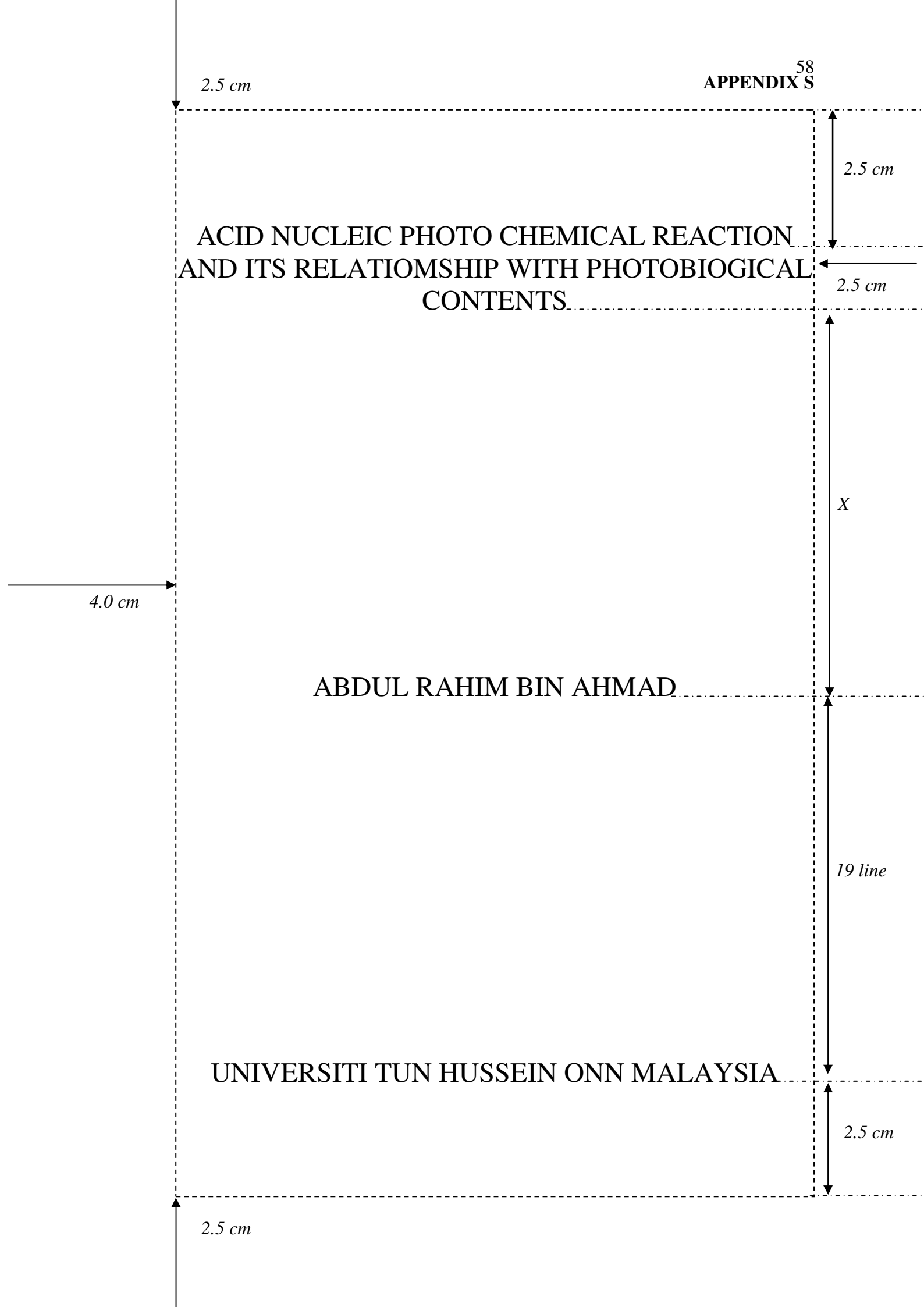
APPENDIX S

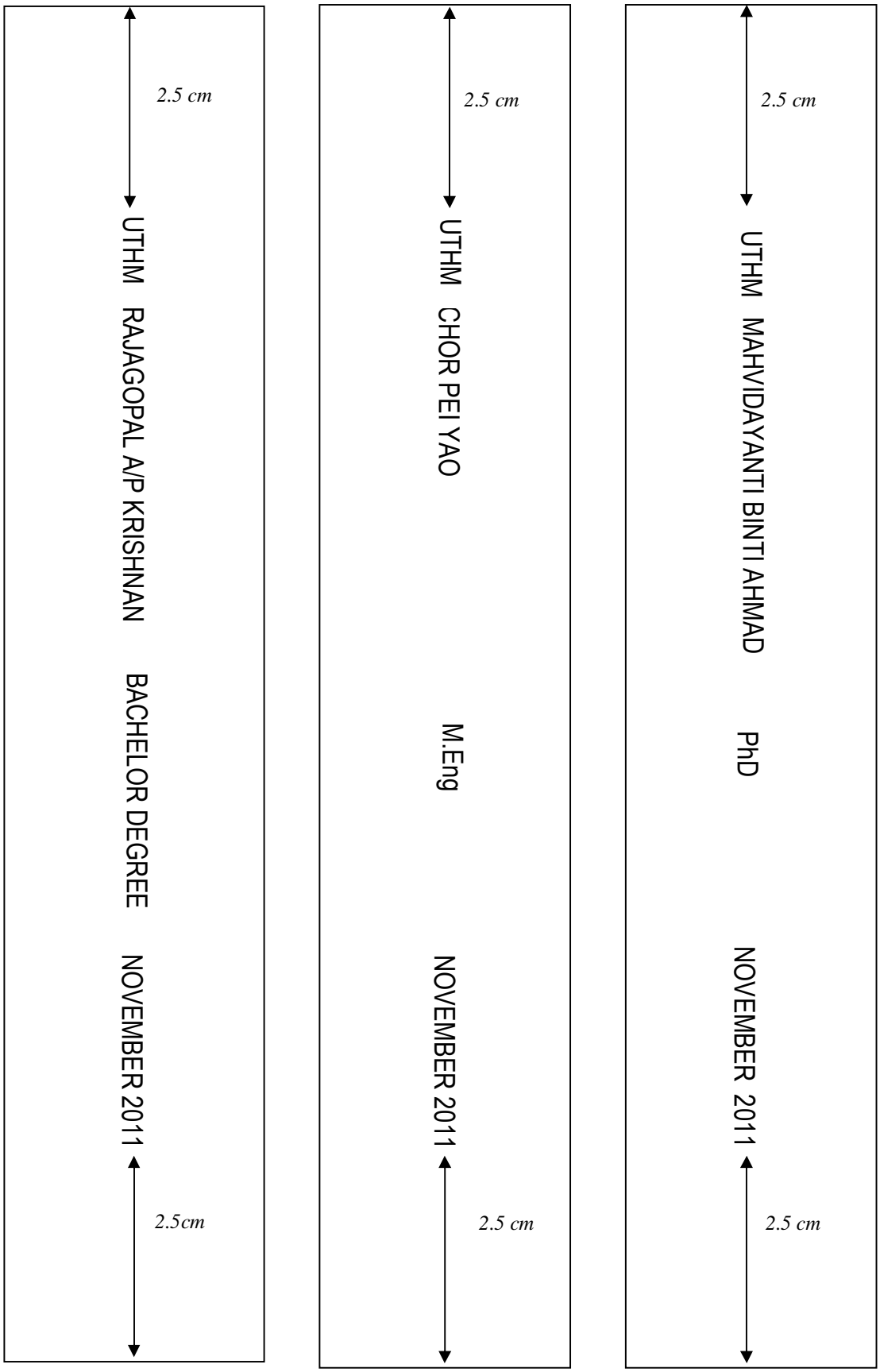


ACID NUCLEIC PHOTO CHEMICAL REACTION AND ITS RELATIOMSHIP WITH PHOTOBIOGICAL CONTENTS

ABDUL RAHIM BIN AHMAD

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

APPENDIX T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The writing on the spine for level of study to all Doctoral programmes is Ph.D for English version and DOKTOR FALSAFAH for Malay version.

The writing on the spine for level of study for Master programmes as the table below :

FACULTY	PROGRAMMES	PROG. CODE	LEVEL OF STUDY (MALAY)	LEVEL OF STUDY (ENGLISH)
FKAAS	Master of Civil Engineering by coursework	MFA	S.Kej	M.Eng
	Master of Civil Engineering by research	KFA		
FKEE	Master of Electrical Engineering by coursework	MEE		
	Master of Electrical Engineering by research	KEE		
FKMP	Master of Mechanical Engineering by coursework	MDM		
	Master of Mechanical Engineering by research	KDM		
FPTV	Master of Technical and Vocational Education by coursework	MBV	S.Pend	M.Ed
	Master of Technical and Vocational Education by research	KBV		
	Master of Technical Education (Civil Engineering) by coursework	MBC		
	Master of Technical Education (Electrical Engineering) by coursework	MBE		
	Master of Technical Education (Mechanical Engineering) by coursework	MBM		
	Master of Technical Education (Instructional Design and Technology) by coursework	MBT		
FPTPK	Master of Science in Real Estate and Facilities Management by research	KPF	S.Sn	MSc
	Master of Science in Technology Management by research	KPP		
FSKTM	Master of Information Technology by research	KIT	S.Tek.Mak	M.InfoTech
FSTPI	Master of Science by research	KWZ	S.Sn	MSc