Guidelines for Preparation of Dissertation

PREAMBLE

While utmost attention must be paid to the content of the dissertation, which is being submitted in partial fulfillment of the requirements of the MTech IT, it is imperative that a standard format be prescribed. The same format shall be followed in preparation of the final soft and hard copies to be submitted to the University.

1. ORGANISATION OF THE DISSERTATION

This dissertation shall be presented in a number of *chapters, starting* with Introduction and ending with **Summary and Conclusions.** Each of the other chapters will have precise title reflecting the contents of the chapter. A chapter can be subdivided into *sections, sub- sections and sub-sub-section* so as to present the content discretely and with due emphasis.

When the work comprises two or more mutually independent investigations, the dissertation may be divided into two or more parts, each with an appropriate title. However, the numbering of chapters will be continuous right through, for example Part 1 may comprise Chapters 2-5, Part Two chapters 6-9.

Sequence of items in Dissertation Report

The following sequence may be followed in the preparation of the final dissertation report:

1. Cover Page (On the **hardbound** cover)
2. Title Page (Inner Cover Page)
3. Certificate from the Supervisor
4. Abstract
5. Acknowledgements
6. (Detailed) Table of Contents (with page numbers).
7. List of Figures (with figure number, figure titles and page numbers)
8. List of Tables with table number, table title and page number.
9. Chapter 1: Introduction (Page No.1 should start with Chapter 1)
10. Chapter 2, 3, etc.
11. Summary
12. Conclusions and Recommendations (if any)

13. Directions for future work (if any)
14. Bibliography (if any) (Please refer to the sample format given below)
15. References (if any) ((Please refer to the sample format given below)
16. Appendices (if any)
17. Checklist for the items in the report

Note: Please do not include any header or footer in any page of the report. Only page numbers should be mentioned at the bottom center of each page. Five copies of dissertation along with soft copy in CD should be prepared by the candidate with one copy each for University, VET, study Centre, examiner (at time of viva voce and presentation) and candidate.

1.1 Introduction
The title of **Chapter 1** shall be **Introduction**. It shall justify and highlight the problem poser and define the topic and the aim and scope of the work presented in the dissertation. It may also highlight the significant contributions from the investigation.

1.2 Review of Literature
This shall normally from the **Chapter 2** and shall present a critical appraisal of the previous work published in the literature pertaining to the topic of the investigation. The extent and emphasis of the chapter shall depend on the nature of the investigation.

1.3 Report on the Present Investigation
The reporting on the investigation shall be the presented in one or more chapters with appropriate chapter titles.

- Due importance shall be given to experimental setups, procedures adopted and techniques developed, methodologies developed and adopted.

- While important derivations/formulae should normally be presented in the text of these chapters, extensive and long treatments and information, detailed results in tabular and graphical forms may be presented in Appendices. Representative date in table and figures may, however, be included in appropriate chapters.

- Figures and tables should be presented immediately following their first mention in the text. Short tables and figures (say, less than half the writing area of the page) should be presented within the text, while large table and figures may be presented in separate pages.

- Equations should form separate lines with appropriate paragraph separation above and below the equation line, with equation numbers flushed to the right.
- Problem Statement should be clearly defined for the area of study in dissertation along with the purpose of study.
- The objectives behind the problem statement should be clearly defined along with the research methodology used in dissertation.

1.4 Results and Discussions

This shall form the penultimate chapter of the dissertation and shall include a thorough evaluation of the investigation carried out and bring out the contributions from the study. The discussion shall logically lead to inferences and conclusions as well as scope for possible further future work.

1.5 Summary and Conclusions

This will be the final chapter of the dissertation. A brief report of the work carried out shall form the first part of the Chapter. Conclusions derived from the logical analysis presented in the Results and Discussions Chapter shall be presented and clearly enumerated, each point stated separately. Scope for future work should be stated lucidly in the last part of the Chapter.

1.6 Appendix

Detailed information, lengthy derivations, raw experimental observations etc. are to be presented in the separate appendices, which shall be numbered in Roman Capitals (e.g. Appendix IV). Since reference can be drawn to published/unpublished literature in the appendices these should precede the Literature Cited section.

1.7 Literature Cited

This should follow the Appendices, if any, otherwise the Summary and Conclusions chapter. The candidates shall follow the style of citation and style of listing in one of the standard journals in the subject area consistently throughout his/her dissertation, for example, IEEE in the Department of Electrical Engineering, Materials Transactions in Department of Metallurgical Engineering and Materials Science. However, the names of all the authors along with their initials and the full title of the article/monogram/book etc. have to be given; in addition to the journals/publisher, volume, number, page(s) and year of publication.

Citation from websites should include the name(s) of author(s) (including the initials), full title of the article, website reference and when last accessed. Reference to personal communications, similarly, shall include the author, title of the communication (if any) and date of receipt.

1.8 Publications by the Candidate

Articles, technical notes etc. on the topic of the dissertation published by the candidate may be separately listed after the literature cited. This may also be included in the Contents. The candidates may also include reprints of his/ her publications after the literature citation.

1.9 Acknowledgements

The acknowledgements by the candidate shall follow the citation of literature, signed by him/her, with date.

2. DISSERTATION FORMAT

2.1 Paper

2.1.1 Quality

The dissertation shall be printed or xeroxed on white bond paper, whiteness 95% or above, weight 70 gram or more per square meter.

2.1.2 Size

The size of the paper shall be standard A 4; height 297 mm, width 210 mm.

2.1.3 Type-Setting, Text Processing and Printing

The text shall be printed employing Laserjet or Inkjet printer, the text having been processed using a standard text processor. The standard font shall be Times New Roman of 12 pts with 1.5 line spacing.

2.1.4 Page Format

The printed sheets shall have the following writing area and margins:

Top margin   15 mm
Head height   3 mm
Head separation   12 mm
Bottom margin   22 mm
Footer   3 mm

Foot separation   10 mm

Text height   245 mm

Text width   160 mm

2.1.5 Left and Right margins

    Left margin   30 mm

    Right margin   20 mm

2.1.6 Pagination

Page numbering in the text of the dissertation shall be numerals starting from '1' at the center of the footer. The text of the written dissertation shall not be less than 60 pages excluding references, tables, questionnaires and other annexure.

Pagination for pages before the Introduction chapter shall be in lower case Roman numerals, e.g., 'iv'.

2.1.7 Paragraph format

Vertical space between paragraphs shall be about 2.5 line spacing.

The first line of each paragraph should normally be indented by five characters or 12 mm. A candidate may, however, choose not to indent if (s) he has provided sufficient paragraph separation.

A paragraph should normally comprise more than one line. A single line of a paragraph shall not be left at the top or bottom of a page (that is, no windows or orphans should be left).

The word at the right end of the first line of a page or paragraph should, as far as possible, not be hyphenated.

2.2 Chapter and Section format

2.2.1 Chapter

Each chapter shall begin on a fresh page with an additional top margin of about 75 mm. Chapter number (in Hindu- Arabic) and title shall be printed at the center of the line in 6 mm font size (18 pt) in bold face using both upper and lower case (all capitals or small capitals shall not be used). A vertical gap of about 25 mm shall be left between the chapter number and chapter title lines and between chapter title line and the first paragraph.

2.2.2 Sections and Sub- sections

A chapter can be divided into **Sections, Sub-sections and Sub-sub-sections** so as to present different concepts separately. Sections and sub-sections can be numbered using decimal points, e.g., 2.2 for the second Section in Chapter 2 and 2.3.4 for the fourth Sub-section in third Section of Chapter 2. Chapters, Sections and Sub-Sections shall be included in the **Contents** with page numbers flushed to the right. Further subsections need not be numbered or included in the contents.

The Sections and Sub-sections titles along with their numbers in 5 and 4mm (16 and 14 pt) fonts, respectively, in bold face shall be flushed to the left (not centered) with 15 mm space above and below these lines.

In further subdivisions character size of 3 and 3.5 with bold face, small caps, all caps and italics may be sued for the titles flushed left or centered. These shall not feature in the contents.

2.2.3 Table / Figure Format

As far as possible tables and figures should be presented in portrait style. Small size table and figures (less than half of writing area of a page) should be incorporated within the text, while larger ones may be presented in separate pages. Table and figures shall be numbered chapter-wise. For example, the fourth figure in Chapter 5 will bear the number **Figure 5.4** or *Fig.5.4*

Table number and title will be placed above the table while the figure number and caption will be located below the figure. Reference for Table and Figures reproduced from elsewhere shall be cited in the last and separate line in the table and figure caption, e.g. (after McGregor [12]).

3 AUXILIARY FORMAT

3.1 Binding

The dissertation shall be hard cover bound in leather or rexin with the following colour specification:

M.Tech. IT Dissertation   -   Grey

3.2 Front Covers

The front cover shall contain the following details:

- Full title of dissertation in 6 mm 22 point size font properly centered and positioned at the top.
- Full name of the candidate in 4.5 mm 15 point size font properly centered at the middle of the page.
- A 40 mm dia replica of the KSOU emblem followed by the name of the Department and the year of submission, each in a separate line and properly centered and located at the bottom of the page.

3.2.1 Lettering

All lettering shall be embossed in gold.

3.2.2 Bound back

The degree, the name of the candidate and the year of submission shall also be embossed on the bound (side) in gold.

3.3 Blank sheets

In addition to the white sheets (binding requirement) two white shall be put at the beginning and end of the dissertation.

3.4 Title sheet

This shall be the first printed page of the dissertation and shall contain the submission statement: the Dissertation submitted in partial fulfillment of the requirements of the MTech IT, the name and Roll No. Of the candidate, name (s) of the supervisor and co-supervisor (s) (if any), Department and year of submission (sample enclosed).

3.5 Dedication sheet

If the candidate so desires (s) he may dedicate his/her dissertation, which statement shall follow the title page. If included, this shall form the page 1 of the auxiliary sheets but shall not have page number.

3.6 Approval sheet

In the absence of a dedication sheet this will form the first page and in that case shall not have a page number. Otherwise this will bear the number two in Roman lower case 'ii' at ht center of the footer. The top line shall be **Dissertation Approval** for M.Tech. IT.

Sample copy of the approval sheet is appended.

3.7 Course work sheet

As the quantum of courses taken by a candidate is different for different postgraduate degrees, a statement of the courses taken with assigned credits is to be included after the approval sheet.

3.8 Abstract

The 500 word abstract shall highlight the important features of the dissertation and shall correspond to the electronic version to be submitted to the VET for inclusive in the website. The *Abstract* in the dissertation, however, shall have two more parts, namely, the layout of the dissertation giving a brief chapter wise description of the work and the key words. Sample copy of the Abstract sheet format is appended.

3.9 Contents

The contents shall follow the Abstract and shall enlist the titles of the chapters, section and sub-section using decimal notation, as in the text, with corresponding page number against them, flushed to the right.

3.9.1 List of Figures and Tables

Two separate lists of Figure caption and Table titles along with their numbers and corresponding page numbers against them shall follow the Contents.

3.9.2 Abbreviation Notation and Nomenclature

A complete and comprehensive list of all abbreviations, notations and nomenclature including Greek alphabets with subscripts and superscripts shall be provided after the list of tables, figures. (As far as possible generally accepted symbols and notation should be used.)

Auxiliary page from dedication (if any) to abbreviations shall be numbered using Roman numerals in lower case, while the text starting from the Introduction shall be in Numeral.

4. SUPERVISOR

4.1 Supervisor for Dissertation

Each student shall have two supervisors for dissertation. They shall be called as Internal Supervisor and External Supervisor.

4.2 Supervisor Qualification

The MTech IT faculty at the centre can be the internal supervisor of the student. The internal supervisor should be at least MTech in IT or Computer Science / Engineering or its equivalent or PhD in Computers with at least 3 years of teaching / industry experience.

The external supervisor should MTech in IT or Computer Science / Engineering or its equivalent or PhD in Computers with at least 5 years of teaching / industry experience. The external supervisor shall not be associated with the centre in any manner.

4.3 Change of Supervisor

In the event of the registered supervisor leaving the Institute for any reason or in the event of death of guide, guide may be changed with permission from the University.

5. APPROVAL OF SYNOPSIS AND DISSERTATION TOPIC

5.1 Synopsis

The candidate shall prepare the Synopsis containing the particulars of the proposed dissertation work. The synopsis shall be approved by both the internal and external supervisor and forwarded to University for their approval. Once the synopsis is approved, the candidate can start working on the dissertation topic. No change in dissertation topic shall be entertained once the topic is approved.

6. EVALUATION

Seminar is required to be given by the student on the topic of the dissertation. Progress of the dissertation will be evaluated based on the seminar given by the student during the semester. Marks will be given based on the performance of the student during the seminar.

Guidelines for choosing topics for Dissertation

Each candidate should work independently on a chosen topic. Two or more candidates should not do any project jointly. **The chosen topic of work should be non-trivial, analytical, application-oriented and should involve substantial original research and/or development effort based on a specific theme.** Any attempt at plagiarism or use of unfair means will result in severe disciplinary action.

Candidates should choose only topics for which the work done can be **presented, demonstrated, and defended** before a panel of examiners. Candidates may note that in cases where no demonstration is perceived to be possible by the candidate / employer, due to technical or professional reasons, a letter on the official letterhead of the employer clearly stating this infeasibility, duly signed by the Project Manager of the candidate (or equivalent officer or higher) and brought by the candidate at the time of viva-voce. **However, the University reserves the right to examine the validity of claims made and insist on a live demonstration in presence of its nominees.**

Mere configuration, installation, testing and routine maintenance, support or management of systems or equipment will not be considered adequate for a Dissertation. Trivial, Small projects which are commonly done as assignments in courses are not acceptable as Dissertation. Mere survey of literature/data collection would also not be acceptable as a Dissertation.

- Work of the organization towards Certification of Quality Management (like ISO, CMM) should not be included. This will be viewed as organization's effort.
- The work undertaken should be clearly visible and should pertain to that work accomplished during the current semester.
- The work should not result in mere compilation of information pertaining to organization/project handled. It should be adequately described.

Broad Areas for Dissertation

1. Artificial Intelligence
2. Computer Graphics
3. Compiler Construction
4. Computer Networking
5. Database Systems and Applications
6. Data Warehousing and Data Mining
7. E-Business
8. Embedded Systems
9. Pervasive Computing
10. Internetworking Technologies
11. Multimedia Computing
12. Network Security
13. Microprocessor Based System Design
14. Operating Systems
15. Real Time Systems
16. Software Engineering & Management
17. Software Testing and Quality Assurance
18. Software Architectures
19. Wireless and Mobile Computing
20. Telecom Switching Systems and Networks
21. VLSI
22. Biometrics
23. Enterprise Resource Planning
24. Natural Language Processing
25. Object Oriented Analysis and Design

Sample Format of Cover Page of the Dissertation

Dissertation Title

Submitted in partial fulfillment of the requirements for the degree of

Master of Technology in Information Technology

by

Name of the Candidate

(Roll No._____)

Supervisor (s) :

_____

_____

Information Technology Department
Karnataka State Open University
Manasagangotri, Mysore – 570006
Karnataka

(Year)

arnataka State Open University, Maysore
M.Tech.(IT) 4th Semester

Guidelines for Dissertation Part– II

Karnataka State Open University
Manasagangotri, Mysore - 570006

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INSTITUTE OF
HIGHER EDUCATION

Approval Sheet

Dissertation entitled **Title Name** by **Candidate Name** is approved for the degree of Master of Technology in Information Technology.

Examiners   _____

                                             _____

Supervisor (s)   _____

                                             _____

Chairman   _____

Date: _____

Place: _____

Karnataka State Open University
Manasagangotri, Mysore - 570006

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Format - Certificate from the Supervisors

CERTIFICATE

This is to certify that the Dissertation entitled (Title of the Dissertation) submitted by (Name of the student) having Roll Number (KSOU Enrollment Number of the Student) for the partial fulfillment of the requirements of Master of Technology in Information Technology degree of Karnataka State Open University, Mysore, embodies the bonafide work done by him/her under my / our supervision.

Place: _____   Signature of the Internal Supervisor
                                  Name:
Date: _____   Designation:
                                  Employing Organisation Name and Address:

Place: _____   Signature of the External Supervisor
                                  Name:
Date: _____   Designation:
                                  Employing Organisation Name and Address:

Karnataka State Open University, Maysore
M.Tech.(IT) 4ᵗʰ Semester

Guidelines for Dissertation Part– II

KENT
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Abstract Format

Karnataka State Open University, Mysore

Roll No. : _____

NAME OF THE STUDENT : _____

EMAIL ADDRESS : _____

INTERNAL SUPERVISOR'S NAME : _____

INTERNAL SUPERVISOR'S EMPLOYING ORGANIZATION : _____

_____

_____

INTERNAL SUPERVISOR'S EMAIL ADDRESS : _____

EXTERNAL SUPERVISOR'S NAME : _____

EXTERNAL SUPERVISOR'S EMPLOYING ORGANIZATION : _____

_____

_____

EXTERNAL SUPERVISOR'S EMAIL ADDRESS : _____

DISSERTATION TITLE : _____

_____

ABSTRACT : (Should be neatly word processed; should not exceed one page)

Broad Area of Work: **(Specify one from the area listed in the guidelines)**

Key words **(Specify the technical keywords of the Project in alphabetical order)**

_____
Signature of the Student

Name: _____
Date:

Place:

_____

Signature of the Internal Supervisor

Name: _____

Date:

Place:

_____

Signature of the External Supervisor

Name: _____

Date:

Place:

Note: Attach a separate document including the details in the format given above.