

**GENERAL GUIDELINES
FOR PREPARATION OF M.TECH.
DISSERTATION**

Punjab Engineering College, Chandigarh (Deemed to be University)

LAYOUT

Font

- The Dissertation should be written in Indian/British English on A4 size bond paper.
- Font should be Times New Roman 12.
- Same font should be used throughout the dissertation. If necessary, different fonts may be used within the Tables, Figures, and Appendices.
- The Dissertation should be printed on both side of paper.
- Double-spacing should be used in the Abstract and 1.5 spacing in the text of the Dissertation.
- Single spacing is to be used in long Tables, block quotations separated from the text, footnotes, and bibliographical entries.
- Paragraphs are to be indented, or an empty line left between paragraphs.
- Larger size bold type (not more than 18) may be used for the title of the Dissertation and for Chapter headings.
- Reduced type (not less than 9) may be used within Tables, Figures, and Appendices.
- When using numbers in the text, if the first word of a sentence is a number, it should be written in words.

Chapter and Page Layout

- Each element of the preliminaries (list of Tables, Acknowledgments, etc.), the Reference section, and each Appendix also should begin on a new page.
- Each Chapter should begin on a new page, but sections and subsections should not.
- Avoid typing a heading near the bottom of a page unless there is room for at least two lines of text following the heading.
- A "display" page (a page that shows only the Chapter title) can be placed at the beginning of the Chapter or an Appendix.
- Pages should be numbered at the bottom in the centre, using Arabic numerals (1, 2, 3) beginning with 1 on the first page of the Introduction and continuing consecutively to the end of the manuscript including References.
- The preliminary pages are to be numbered in lower-case Roman numerals, beginning with the declaration page.

Margins

- A margin of at least 3.0 cm must be left at the top and left side of each page.
- A margin of at least 2.5 cm on the right and bottom is to be used.

Captions and numbering (Tables and Figures)

- Each Table should carry a number and a title on the top clearly describing the data presented.
- Each Figure/Illustration should also carry a number and caption at the bottom.

- Figures, Graphs, Tables should be embedded in the text of the dissertation, immediately after the first mention of it in the text, on the same page if there is room, or on the following page.
- Captions and titles of Figures and Tables should appear on the same page as the material itself. .
- Figures/Illustrations/Tables should be numbered consecutively with Arabic numerals in the order of presentation in the text.
- All Tables and Figures must be referred to in the text by numbers and not by a phrase such as "the following table". Tables or Figures of peripheral importance to the text may be placed in an Appendix.

Appropriate use of headings and subheadings

- Headings should be distinguished from the surrounding text by a larger font size, a different font, bolding, italics, or a combination of these.
- All headings of the same level should use the same style, and headings at lower levels should be less prominent than those at higher levels.
- All headings should be left aligned, except chapter headings, which may be centered.
- The headings and subheadings can be numbered, if necessary.
- An example is given below:-

Chapter Title:	Times New Roman 16 point, Bold Small caps
Heading for section:	Times New Roman 14 point, Bold Italic
Heading for sub-section:	Times New Roman 12 point, Bold
Heading for part of subsection:	Times New Roman 12 point, Bold Italic

FORMAT OF DISSERTATION

The manuscript consists of three main parts: Preliminaries, Text, and Annexure (s). It is to be arranged in the following sequence:-

Preliminaries

- Cover Page
- Title Page
- Declarations by Student & Supervisor
- Acknowledgements
- Table of Contents
- List of Figures, Tables or Illustrations
- List of Symbols
- List of Abbreviations (optional)
- Abstract

Text

References

Annexure(s)

STRUCTURE OF THE PRELIMINARY PARTS

OUTER COVER AND TITLE PAGE (as per format given in Appendix I)

- The outer cover of M.Tech. dissertation should be in light blue color with black printing.
- Type the title of the dissertation using capital letters throughout. If it occupies more than one line, double space between lines and arrange it in inverted pyramid form.
- The title page should provide the information in the following order:-
 - Full title of the dissertation
 - Statement- Dissertation submitted by”
 - Candidate’s name
 - Statement: “In partial fulfillment of the requirements for the award of Master of Engineering”
 - Institute Logo
 - Department and Institute’s name i.e. Punjab Engineering College, Chandigarh (Deemed to be University)
 - Year of submission

DECLARATION BY CANDIDATE & SUPERVISOR (As per format given in Appendix II)

The student should make this declaration. The supervisor has to provide a certificate and if Co-supervisor is present, certificate has to be given by the Supervisor and Co- Supervisor.

ACKNOWLEDGEMENTS

The acknowledgement of the dissertation is written in gratitude to all those who were instrumental in bringing the dissertation to fruition. The language used should be formal. Acknowledge those who have assisted technically (including materials, supplies), intellectually (assistance, advice) and financially (for example, funding agency institutional support, travel grants)

CONTENTS

The dissertation must have a table of contents page listing chapter headings, section headings and sub-headings as well as appendices and their corresponding page number.

LIST OF FIGURES/TABLES/ILLUSTRATIONS

A separate list of Figures, Tables, or Illustrations should be included on a separate page immediately following the table of contents.

LIST OF FIGURES

Figure No.	Caption	Page
------------	---------	------

LIST OF TABLES

Table No.	Title	Page
-----------	-------	------

LIST OF SYMBOLS

Symbols	Description
---------	-------------

LIST OF ABBREVIATIONS : (optional)

If a large number of abbreviations are used in the dissertation, which may be unfamiliar to a reader, a list of abbreviations may be useful.

ABSTRACT

- The Abstract is a summary of the contents of the dissertation.
- Citations are generally not included in the synopsis.
- The Abstract should not include internal headings, diagrams or other illustrations.
- Abstract, it must be double-spaced.
- It should be concise, and comprehensive, and should have the following details:-
 - The background
 - Objectives
 - Hypothesis
 - Methods
 - Major findings
 - Significance/ implication of the findings

TEXT OF DISSERTATION

- The text of the dissertation is usually divided into chapters with subheadings within the chapters to indicate the orderly progression of topics and their relation to each other.
- All chapter headings should be typed consistently.
- When there are subheadings, each level of heading should be clearly distinguished typographically from the other levels, and the variations should be selected so as to reflect the hierarchy of headings clearly (higher level headings should look more important).
- Always allow at least one extra line of space above subheadings, and preferably below as well.

REFERENCES

- All publications cited in the dissertation should be presented in a List of References following the text.
- The student is responsible for the accuracy of the References.
- References should follow the Harvard-like format. Citation of References in the text should be given by author's last name (no initials) followed by the year.
 - When two or more citations are given, list them in chronological order.
 - When there are two authors, include both the names, separated by "&"; when there are three or more names, give only the first author followed by "et al."
 - If there are two or more papers by the same author(s) in the same year, identify them by "a", "b", etc. (and be sure to include the identifying letters in the Reference List).
- All references cited in the text (including those included in figure legends and tables) should be listed in the References.
- Start the References on a separate page, and arrange citations in alphabetical order by the first author's last name; do not number the citations.

- List all the authors (do not use “et al.” in the reference list). When there are two or more references to the same author(s), list them in chronological order.
- For journal references, the names of authors (last name and initials) should be followed by the date, title of the article, journal name (in italics), volume number and pages (first - last page numbers).
- Reference to electronic material should include author name(s), date, article title, and journal (as above); where volume and/or page numbers are not available, substitute Digital Object Identifier (DOI) number.
- Illustrative examples of entries in a Bibliography or list of References are given below:-

Journal

Example:

Minning S., Eliot C. A., Uhl T. L. & Malone T. R., 2007, EMG analysis of shoulder muscle fatigue during resisted isometric shoulder elevation, *Journal of Electromyography and Kinesiology*, Vol. 17, pp 153–159.

Book

Example:

Pechenik JA, 1987, A short supervisor to writing about biology, *Harper Collins Publishers*, New York.

Dissertation

Smithers RHN, 1997, The mammals of Botswana, DSc dissertation, University of Pretoria.

Conference proceedings

Bourassa S, 1999, Effects of child care on young children, *Proceedings of the third annual meeting of the International Society for Child Psychology, International Society for Child Psychology, Atlanta, Georgia, May 20, 2013* pp. 44-6.

Citations from Internet

The following elements in sequence must be considered: Author (if known), Date of publication/last updated, Title of article or document on website Type of medium [Online], Available from (website), Access date in brackets

Harris P., 2005, Reaching the top of the mountain, [Online], *Oxford University Press: Oxford*, Available: <http://www.netLibrary.com/openbook/093456/html> [Accessed 8 January 2008]

Patents

Author(s) of patent – surname and initials Year of issue, *Title of patent- italicized*, Number of patent including country of issue.

Cookson A.H., 1985, Particle trap for compressed gas insulated transmission system xcxcs, *US Patent*, 4554399.

Appendix I – Layout of title/cover page

TITLE OF DISSERTATION

(Capitals, bold and inverted pyramid form)

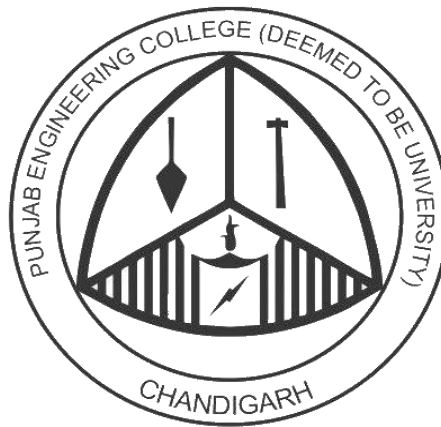
A DISSERTATION SUBMITTED BY

(NAME)

IN PARTIAL FULFILMENT OF THE REQUIREMENTS

FOR THE AWARD OF

MASTERS OF TECHNOLOGY IN PROGRAM NAME DEGREE



DEPARTMENT OF

PUNJAB ENGINEERING COLLEGE, CHANDIGARH
(DEEMED TO BE UNIVERSITY)
CHANDIGARH

YEAR

Appendix II - Format for declaration by student and Supervisor (Example only)



CANDIDATE'S DECLARATION

I hereby certify that the work which is being presented in the dissertation entitled **“TITLE”** in the partial fulfillment of the requirements for the award of the **Master of Technology** in **Program Name** and submitted in the **Department** of the Punjab Engineering College, Chandigarh (Deemed to be University), Chandigarh, is an authentic record of my own work carried out during the period from **year xyz** to **year abc** under the Supervision of _____ (name of supervisor, designation and department).

The matter presented in this dissertation has not been submitted by me for the award of any other degree of this or any other University/Institute.

Date: _____

(Candidate Name)

This is to certify that the above statement made by the candidate is correct to the best of our knowledge.

(Co-Supervisor)

Associate Professor
Department of
Punjab Engineering College, Chandigarh
(Deemed to be University)
Chandigarh – 160012, India

Date:.....

(Supervisor)

Assistant Professor
Department of
Punjab Engineering College, Chandigarh
(Deemed to be University)
Chandigarh – 160012, India

Date:.....

M.Tech. Dissertation/ Industry Project Evaluation

- 1) The student shall have the option of doing the dissertation work in the institute or undertake an industry project. Prior approval of the DAPC of the department will be mandatory for undertaking industry project. The supervisor will be a special invitee if he/ she is not a member of DAPC.
- 2) The industry project should preferably be research-based.
- 3) The student who completes only 3rd semester as industry project, his/ her final evaluation of 3rd semester will be as per industry project rules. For 4th semester his/ her final evaluation will be done as per institute dissertation rules and guidelines.
- 4) There shall be four evaluations of M.Tech. Dissertation – one mid-term and one end term in the third semester (total 14 credits) and one mid-term and one end term in the fourth semester (total 18 credits). The details of evaluation of the dissertation are given in **Annexure-VI and Annexure-VII** and the details of evaluation of industry project are given in **Annexure-X and Annexure-XI**. After evaluation all the parameters (in marks), a final grade for each semester will be submitted to the Academic Section. The work done at the end of 3rd semester shall be submitted in the form of a report. A Dissertation shall be submitted at the end of 4th semester.
- 5) The Examination Board for M.Tech thesis/ industry project evaluation at end of 3rd/ 4th Semester would consist of the following:-
 - (i) Chairman DAPC or his/her nominee
 - (ii) Faculty coordinator programme, Convener
 - (iii) Supervisor(s)
 - (iv) One faculty from within the department
 - (v) External examiner from reputed organization.

In case of evaluation at the end of 3rd semester, the member at S.No. (v) may be dropped, if not available.

The weightages for the various components of evaluation would be distributed between the Supervisor and the Examination Board as follows:

Supervisor(s)	-	50%
Examination Board (except Supervisor)	-	50%

While evaluating the dissertation/ Industry Project, each member of the Examination Board will independently award marks for various components of evaluation. The average of all the marks awarded for each component will be taken as the final marks scored by a student.

- 6) The grand total of marks obtained at the end of 3rd and 4th semester respectively shall be converted into grades as follows:-

M.Tech. students 2018 Batch onwards for Dissertation Evaluation only

<u>Grade</u>	<u>Points</u>	<u>Marks (M)</u>
A+	10	M \geq 85 %
A	9	80 % \leq M < 85 %
B+	8	70 % \leq M < 80 %
B	7	60 % \leq M < 70 %
C+	6	50 % \leq M < 60 %
C	5	40 % \leq M < 50 %
D	4	35 % \leq M < 40 %
F		<35 %

- 7) In case the M.Tech. Dissertation/ Industry Project is graded F, the candidate may be allowed to resubmit the M.Tech. Dissertation/ Industry Project after nine months subject to maximum duration of the programme.

- 8) Guidelines for Industry Project:

- i) Joining Report of Student (**Annexure-VIII**)
- ii) The distribution of Marks for finalizing the grades for project semester

S. No	Subject	Marks (140) 3 rd Semester		Marks (180) 4 th Semester		Remarks
		Mid Term	End Term	Mid Term	End Term	
1.	Credits by Industry	20	60	40	60	Proforma to be filled by Industry coordinator (As per Annexure - IX)
2.	Evaluation by Deptt. including <ul style="list-style-type: none"> • Report • Presentation • Viva Voce 	20	40	20	60	The students, who go for industry project to a place within a distance of 500 km from the institute, will be called to the department for all the four evaluations. The remaining students will be exempted from physical presence for mid-term evaluation which will be done through skype, email or phone and proforma to be filled by faculty coordinator to be displayed on notice board (As per Annexure - X for 3rd Semester and Annexure XI for 4th Semester)
Total Marks		140		180		

LIST OF EXAMINERS FOR DISSERTATION EXAMINATION OF M.TECH.

DEPARTMENT :- _____ **(Deptt. name).**

M.Tech. Programme :- _____

Sr. No.	Name of the Student	Student ID	Dissertation Title	Chairman DAPC or his/her nominee	Faculty coordinator program, convener	Supervisor(s)	Examiners from within Deptt.	External Examiners
							1. 2.	1. 2. 3.

Convenor DAPC

Head of the Dept.

**PUNJAB ENGINEERING COLLEGE, CHANDIGARH (DEEMED TO BE
UNIVERSITY)**

SUBMISSION OF M.TECH. DISSERTATION

1. Name of the student _____SID no. _____
2. Status: Full -Time/ Part-Time_____
3. Department_____
4. Date of Initial Registration_____
5. Date of final dissertation submission_____
6. Title of dissertation _____

7. Name(s) of supervisor/Co-supervisor(s):

1 _____ 2 _____

8. Address for correspondence _____

Phone no. with STD Code_____ Mobile No._____

AADHAR NO. (*mandatory*)_____

Email_____@_____

9. a) Placement if any_____

b) Whether through campus or otherwise_____

Signature of Student

COUNTERSIGNED

Signature of Supervisor(s)

Signature of HOD

**PROFORMA FOR INFORMATION REGARDING CONDUCT OF THE M.TECH.
DISSERTATION EVALUATION**

Name(s) of the student(s) & S.I.D.(s) :-	1. _____ SID _____ 2. _____ SID _____ 3. _____ SID _____ 4. _____ SID _____
Dissertation Title:	1. _____ 2. _____ 3. _____ 4. _____
Dissertation Supervisor:	1. _____ 2. _____ 3. _____ 4. _____
External Examiner for the dissertation with his address:	_____ _____ _____ _____ _____ _____ Pin Code
Date of Evaluation :	_____
Time of Evaluation:	_____
Note:- Please attach the photocopy of approved panel of External Examiner	

(Dissertation supervisor)

(Head of Department)

PROFORMA-1

DEPARTMENT OF
PUNJAB ENGINEERING COLLEGE, CHANDIGARH (DEEMED TO BE
UNIVERSITY)

M.TECH. DISSERTATION GRADE-SHEET (III Semester, Session.....)

Candidate's Name.....SID.....

Branch.....Year of Initial Registration.....

Title of M.Tech. Dissertation.....

.....

.....

Contents	Term	Supervisor (s) Marks	Marks Awarded	Examination Board Marks				Total Marks
				Supervisor Marks	Marks Awarded	Board Member (Except Supervisor)	Marks Awarded	
Evaluation at the Mid Term and End Term of 3 rd semester								
Evaluation by Deptt. including • Report • Presentation • Viva Voce	Mid Term	20		25		25		
	End Term	20		25		25		
Total Marks 140								

Grade points in figures: _____

Grade Awarded in Letter: _____

The examination was held on.....at Chandigarh (III semester)

Supervisor (s)

External Examiner

Faculty from within department

Faculty coordinator programme,

Chairman DAPC or his/her nominee

DEPARTMENT OF
PUNJAB ENGINEERING COLLEGE, CHANDIGARH (DEEMED TO BE UNIVERSITY)
M.TECH. DISSERTATION GRADE-SHEET (IV Semester, Session.....)

Candidate's Name.....SID.....

Branch.....Year of Initial Registration.....

Title of M.Tech. Dissertation.....

.....

.....

Contents	Term	Supervisor (s) Marks	Marks Awarded	Examination Board Marks				Total Marks
				Supervisor Marks	Marks Awarded	Board Member (Except Supervisor) Marks Awarded	Marks Awarded	
Evaluation at the Mid Term and End Term of 4 th semester								
Evaluation by Deptt. including • Report • Presentation • Viva Voce	Mid Term	30		15		15		
	End Term	60		30		30		
Total Marks 180								

Grade points in figures: _____

Grade Awarded in Letter: _____

The examination was held on.....at Chandigarh (IV semester)

Supervisor (s)

External Examiner

Faculty from within department

Faculty coordinator programme,

Chairman DAPC or his/her nominee

Note: In case a student is allowed to work in an Institute other than Punjab Engineering College, Chandigarh (Deemed to be University) an additional certification from the guide of that Institute for the progress of work (satisfactory/unsatisfactory) is required.

JOINING REPORT

(To be sent by student within a week of joining by Registered Post to Head of the Concerned Department, Punjab Engineering College (Deemed to be University), Chandigarh.

- 1. Student ID _____
- 2. Name _____
- 3. Name of the Project _____
- 4. Name & Address of the Organization _____

Telephone No. _____
E-mail : _____
- 5. Address of the Site _____

Telephone No. _____
E-mail : _____
- 6. Residential Address of the Student _____

Telephone No. _____
E-mail : _____

I hereby inform that I have joined the organization on _____ for the Industry Project in the industry.

Dated: _____ Signature of the Student

CERTIFICATE BY THE CO-ORDINATOR IN THE INDUSTRY

Certified that the above-mentioned student has joined our organization for the industry project in the industry.

Dated: _____ Signature of the Coordinator

Name of the Coordinator:
Designation:
Phone No.:
E-mail (if any):

PUNJAB ENGINEERING COLLEGE, CHANDIGARH
(DEEMED TO BE UNIVERSITY)
MID TERM/FINAL EVALUATION OF M.TECH. INDUSTRY PROJECT
(To be filled by Industry Coordinator)

NAME OF THE ORGANISATION _____

S. No.	Student ID	Name of Student	Name of Project	Marks Mid Term	Marks End Term

(Name & Designation)
Industry Coordinator

Maximum Marks for 3rd Semester	
Mid Term	20
End Term	60
Maximum Marks for 4th Semester	
Mid Term	40
End Term	60

Evaluation Parameters:

Following parameters may be kept in mind while evaluating the student:

i	JOB KNOWLEDGE (refers to knowledge clarity of fundamentals, and latest development)	ix	ADAPTABILITY TO NEW ENVIRONMENT (refers to ability to acclimatize himself/herself to new work environment/culture.
ii	CREATIVITY (refers to the ability to generate new and practical ideas for improvement of systems and operations related to the job)	x	PROBLEM FORMULATION (refers to initiative shown in converging to project formulation)
iii	PLANNING SKILLS (refer to the ability to conceptualize all aspect of the project and to systematically plan the series of activities to achieve the goals)	xi	TECHNIQUES/TOOLS used at various stages
iv	ORGANISING SKILLS (refers to the ability to mobilize co-ordinate, integrate various activities/resources to achieve fast completion)	xii	EXECUTION OF THE PROJECT(S) (refers to (a) Setting Time frames (b) Efforts put into complete the project. Maintenance of work diary.
v	APPLICATION SKILLS (refer to the ability to apply knowledge to real life situations)	xiii	PROJECT REPORT & DEFENCE
vi	JOB INVOLVEMENT (refers to the concern and diligence shown in execution of the project)	xiv	PRESENTATION (Refers to style and effectiveness)
vii	INTERPERSONAL RELATIONSHIP (refers to ability to work harmoniously with superiors and subordinates)	xv	Written Expression
viii	REGULARITY & PUNCTUALITY (refers to (i) Sanctioned authorized leave, absence without permission (ii) late coming & leaving work place early)	xvi	Oral Expression

DEPARTMENT OF
PUNJAB ENGINEERING COLLEGE, CHANDIGARH
(DEEMED TO BE UNIVERSITY)
M.TECH. INDUSTRY PROJECT GRADE-SHEET
(III Semester, Session.....)

Candidate's Name.....SID.....

Branch.....Year of Initial Registration.....

Title of M.Tech. Industry Project

.....

.....

Contents	Term	Industry Coordinator Marks	Marks Awarded	Examination Board Marks				Total Marks
				Supervisor (s) Marks	Marks Awarded	Board Member (Except Supervisor) Marks Awarded	Marks Awarded	
Evaluation at the Mid Term and End Term of 3 rd semester								
Evaluation by Deptt. including • Report • Presentation • Viva Voce	Mid Term	20		10		10		
	End Term	60		20		20		
Total Marks 140								

Grade points in figures: _____ **Grade Awarded in Letter:** _____

The examination was held on.....at Chandigarh (III semester)

Supervisor (s) **External Examiner** **Faculty from within department**

Faculty coordinator programme, **Chairman DAPC or his/her nominee**

DEPARTMENT OF
PUNJAB ENGINEERING COLLEGE, CHANDIGARH
(DEEMED TO BE UNIVERSITY)
M.TECH. INDUSTRY PROJECT GRADE-SHEET
(IV Semester, Session.....)

Candidate's Name.....SID.....

Branch.....Year of Initial Registration.....

Title of M.Tech. Industry Project

.....

.....

Contents	Term	Industry Coordinator Marks	Marks Awarded	Examination Board Marks				Total Marks
				Supervisor (s) Marks	Marks Awarded	Board Member (Except Supervisor)	Marks Awarded	
Evaluation at the Mid Term and End Term of 4 th semester								
Evaluation by Deptt. including <ul style="list-style-type: none"> • Report • Presentation • Viva Voce 	Mid Term	40		10		10		
	End Term	60		30		30		
Total Marks 180								

Grade points in figures: _____

Grade Awarded in Letter: _____

The examination was held on.....at Chandigarh (IV semester)

Supervisor (s)

External Examiner

Faculty from within department

Faculty coordinator programme,

Chairman DAPC or his/her nominee

FINAL DISSERTATION SUBMISSION OF M.TECH. PROGRAMME

Name _____

SID _____

Department _____

Topic _____

Certified that a hardbound copy of dissertation has been submitted in the Departmental Library and Institute Library after final viva-voce exam.

Student's Signature

Verified by

In-charge Library

Deptt. Coordinator M.Tech. Prog.