



# **CGC COLLEGE OF ENGINEERING**

Building Careers. **Transforming Lives.**

## **GUIDELINES FOR PREPARATION OF Project & Training File**

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<b>Guidelines for</b>	<b>Btech Students</b>
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# GUIDELINES FOR PREPARATION AND SUBMISSION

## 1. Specification for File

### 1.1 Preparation of manuscript and number of copies

- File must be written and printed in black text (color may be used for images, if necessary) using a high quality laser jet or ink jet printer.
- All content should be typed only in Times New Roman font.
- All the copies of File pages must be clear, sharp and even, with uniform size and uniformly spaced characters, lines and margins and typically weighs 80-85 GSM (gram per square meter) or more.
- File should be free from typographical errors and a proper proof reading before final submission of File.
- One copy of (maroon color hard cover binding) File along with a soft copy on a pen drive should be submitted to Department.
- Candidates should write the content of File as concisely as possible, with clear and adequate expression. A File should not exceed 100000 words (excluding prefacing materials of the File). Some tips to reduce the size of a File are given below.
  - a) Do not unnecessarily repeat definitions and texts.
  - b) Be precise in your description, conclusions and interpretations.
  - c) Do not leave blank space on a page after a table or a figure.
  - d) Scholars might consider including a compact disk (CD) for computer program(s) listing and just include the flow of the logic and its other distinguishing features in the text of the File.

### 1.2 Paper size, font size and margins

- **Paper size:** The standard size of paper of a File is 21.5 cm (8.5 inches) wide and 28 (11 inches) long, commonly known as A4 sized paper. Oversized figures and tables if any should

be reduced appropriately to fit with the size of the paper, no other size of paper usage is permitted. Care should be taken not to compromise the clarity of the contents while reducing. If required, scholar may consider folding oversized papers to fit with the File size.

- **Double-sided printing:** The File should be printed in a double-sided format, ensuring a professional and efficient presentation. Special attention must be given to the quality and opaqueness of the paper to maintain good readability under normal lighting conditions. When printing double-sided, each new chapter must begin on an odd-numbered page to align with standard formatting conventions. To achieve this, efforts should be made to avoid ending a chapter on an odd-numbered page, thereby preventing unnecessary blank pages while ensuring a consistent layout. Proper attention to these details will enhance the overall readability and presentation of the File.

Suggested font sizes details	Font type	Font size	Spacing
Cover and title page – (see specimen A) for details	Times New Roman	18 pt. bold capitals	Centered
Chapter headings with chapter number on top	Times New Roman	16 pt. bold capitals	Centered
Section headings	Times New Roman	14 pt. bold	Left adjusted
Subsection headings	Times New Roman	12 pt. bold	Left adjusted
Body of File	Times New Roman	12 pt.	Justified adjusted with 1.5 spacing for text and double spacing for equations
Margins	A margin of 3.75 cm (1.5 inch) is to be given on the binding edge while on the other side it is to be 2.5 cm (1inch).		To accommodate binding area
	Top	2.54 cm	

	Bottom	2.54 cm	
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- A chapter can be divided into various sections, subsections and further sub sections so as to present different concepts separately. Sections and subsections can be numbered using decimal points, e.g. 2.2 for the second section in chapter 2 and 2.3.4 for the fourth subsection in third Section of chapter 2. The section and sub-section titles along with their numbers in 14 and 12 pt fonts, respectively, in bold face shall be placed to the left (not centered) with 15 mm space above and below these lines.

### 1.3 Page numbering

- Page numbers prior to chapter 1 should be numbered in Roman numerals (i, ii, iii, iv, v etc.). The first page of the first chapter onwards should be numbered in Arabic numerals (1, 2, 3, etc.). Page numbers should be inserted in the center and at the bottom of each page. The title page is considered to be page (i) but the number is not printed.

### 1.4 Line spacing

- The general text of the manuscript should be in 1.5-line spacing. Footnotes, multiline captions, long tables and references should be in single spacing. There should be a double spacing between two references and two equations.

### 1.5 Tables, figures and equations

- Figures and tables should be presented following their first mention in the text. Short tables and figures should be presented within the text, while large table and figures may be presented on separate pages. Good quality figures must be prepared using standard software in vector graphics format and must be scalable. The resolution of the images, photographs and other equivalent content must exceed 300dpi with 256 grayscales for monochrome images and 24 bit per pixel for colored images. Blurred images and unreadable images should be not placed, usage of Origin Pro software for graphing is suggested instead of excel graphs.
- Tables should be centrally aligned in the page and their number should be chapter wise like Table 1.1 \_\_ \_\_, Table 2.1 \_\_ \_\_, Table 3.1 \_\_ \_\_ and so on.

- Similarly, figures should be numbered chapter wise like Figure 1.1\_ \_\_\_, Figure 2.1\_ \_\_\_, Figure 3.1\_ \_\_\_, and so on.
- Table caption should be above the table and figure caption should be below the figure and a colon immediately after the figure number and table number followed by a space and centrally aligned. Font size for figure and table numbers will be 10 bold and for the figure and table caption 10.
- Also, equations should be chapter wise like Eq. (1.1), Eq. (1.2) ....and so on. There should be double spacing between the two equations. Short equations are centered within the File margins. All equations are set off from preceding and following text by a double space. Spacing must be uniform and consistent. In general, equations should be numbered at the right margin of the manuscript with the number either in brackets or parentheses.

## 1.6 Binding

- Acceptance of the submission File seminar, the final Maroon colored hard bound copies should be submitted in prescribed format and numbers. **These hardbound copies should include name of scholar, abbreviated title and year of submission on the binding side.** The copies of File may be in spiral bound for Synopsis & Midterm submission File.

## 1.7 Lettering

- All lettering shall be embossed in gold.

## 1.8 Bound back

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

## 1.9 Blank sheets

- One white sheet should be put at the beginning and end of the File.

## 1.10 Starting of chapter

- A chapter should not begin directly with a subtopic. For instance, in the literature review chapter, it should not start abruptly with a citation like "Thomas *et al.* proposed...". Instead, the chapter should begin with a general introduction or background that provides context for the reader. The introduction should consist of one or two paragraphs that outline the significance, scope, or historical development of the topic. This helps in establishing a logical flow and ensures coherence in the File. After setting the background, subtopics can be introduced sequentially. This approach enhances readability, maintains structural integrity, and allows the reader to grasp the broader perspective before delving into specific details.

## **2.Style of Writing**

Scientific writing requires a good knowledge of standard language and the command of a formal style of writing. The grammatical and the orthographical rules of the language must be followed. Scientific language is unambiguous and precise and discards vague expressions like "several studies show that...", with no valid reference to an example. An English text does not use contracted forms like "doesn't" or "can't". All standardized forms of English are accepted but they must not be mixed. A characteristic feature of the scientific style is the use of special concepts and terms, which must be defined when they first occur in the text. In the academic community, the use of the first-person pronouns "I" or "we" is a source of some disagreement. Usage of either American or British English throughout the text is suggested without mixing up of content.

## **3.Paraphrasing**

Plagiarizing another author's text without correct reference to the original source is a serious offence, so the referencing technique should be adopted right at the beginning of the File writing process. In addition, it is of vital importance to realize that the original texts must not be used unprocessed; they need to be paraphrased. Paraphrasing is restating what someone else has said in your own words. You should introduce the essential issues for your own File in adequate extent and correctly. The aim is to crystallize the central issues of the original text, however, at the same time, you should present your own observations, opinions and conclusions. All ethical norms of preparing and submitting a File should be adhered and its responsibility of the supervisor to verify the content integrity before final submission.

## **4. Illustrating the Text**

A File often comprises elements supporting and illustrating the text, such as tables, figures and mathematical formulas. All illustrative material is closely linked to the text, however, all tables and figures should be composed in such a way that the reader is able to understand them without reading the text. The text presents the essential observations and conclusions based on the tables and figures, not repeating the individual numerical information (i.e. single figures) reported in them. Tables, figures and mathematical formulas are numbered consecutively, each as an independent series. They are placed as near as possible to the section of text where they are first referred to.

## **5. Tips for Good Writing**

### **5.1 Continuity of ideas**

- It is very important that there is a continuity of idea in your synopsis/ manuscript. Few suggestions in this regard are mentioned below: A particular paragraph should elaborate only one theme/idea. If there is a need to emphasize multiple themes, then it is suggested to name them in a single paragraph and subsequently discuss them in separate paragraphs. There should be a smooth transition from one paragraph to the next paragraph. In order to do so, the first paragraph mentions the theme of the next paragraph.

### **5.2 Proper usage of verbs and tenses**

- In order to have continuity, it is essential to use verb tenses judiciously and properly. Following suggestions may be useful in this context:
  - a) Past tense (e.g., “Bergman showed ...”) or present tense (e.g., “Newton has shown . . .”) is appropriate for the literature review. This usage of verb tense may be applied for discussion on the past events.
  - b) Results are best described by using past tense, e.g., “Expenditure increased at the rate of 10% per year.”).
  - c) In order to discuss results and draw conclusions, it is apt to use present tense, e.g., “The results of the experiment indicate ...”



### 5.3 Mathematical symbols

- Mathematical expressions must italicize all symbols used in them. A distinct look (to the mathematical expression) may be imparted by separating them from the text (both preceding and following it) by larger line spacing and an indentation should be given. Each equation must appear only after it has been referenced in the text. Usage of one single equation editor throughout the text is suggested.

### 5.4 Common mistakes

- Some words and expressions, commonly misspelled by the scholars, are the following:

Correct	Incorrect	Remarks
i.e.	ie, i.e, ie.	(Use "i.e." with proper punctuation; it stands for id est.)
e.g.	eg, e.g, eg.	(Use "e.g." with proper punctuation; it stands for exempli gratia.)
<i>et al.</i>	et.al., etal, et al	(The correct form is "et al." short for et alia.)
Whereas	where as	(One word, not two.)
Literature	Literatures	(Literature is an uncountable noun.)
Equipment	Equipments	(Equipment is uncountable.)
Data	Datas	(Data is plural; "datum" is singular.)
kWh	KWH, KWh	("k" stands for kilo, not Kelvin.)
million tons (10 <sup>6</sup> )	MT	("M" stands for Mega, which is ambiguous.)
10 kg	10kg	(A space separates the value from the unit of measurement.)
ppm	PPM, ppM	(Use lowercase "ppm" as per SI convention.)
µm	um, Um	("µ" stands for micro.)
25°C	25 °C, 25C	(A space should be placed between the number and the unit, but not between the degree symbol and "C".)
Figure 1	Fig.1, fig1, Fig-1	(Use "Figure 1" or "Fig. 1" with a space after the period.)
Equation (1)	Eq.(1), eq 1	(Use "Equation (1)" or "Eq. (1)" with a space.)
Table 2	Table-2, table2	(Use "Table 2" with a space.)
meters per second (m/s)	mps, MPS, m/sec	("m/s" is the correct SI unit.)
Watt (W)	w, watt, Watts	("W" is the correct symbol, and "Watt" is capitalized when written in full.)
$5 \times 10^3$	$5*10^3$ , $5x10^3$	(Use the proper multiplication symbol "×".)

References	Reference	(In research papers, "References" is plural unless referring to a single citation.)
vs.	vs, versus	("vs." is the correct abbreviation in technical writing.)
1st, 2nd, 3rd	1st., 2nd., 3rd.	(Do not use a period after ordinal numbers.)

## 5.5 Common errors in writing

- Writing a dissertation could be cumbersome and its tedious to manage content flow. This may lead to loss of attention that may lead you to common errors in writing. The following write up gives you an idea about some of these common errors. Keeping them in mind will make your work impressive.
- In most writing, common mistakes include:
  - a) Incorrect use of punctuation, including commas, semicolons, colons, and dashes, etc.
  - b) Misusing articles and prepositions
  - c) Mistaking one word for another (envelope and envelop, stationary and stationery, affect and effect, complement and compliment). The spell-checker won't detect these errors.
  - d) You may want to keep your sentences small.
  - e) Confusing "then" and "than," "its" and "it's," "affect " and "effect," and "lay" and "lie"
  - f) Advice versus Advise:
 

Advice is a noun, something that you give. It is a thing. Say, "Please give me some advice."

Advise is a verb, something that you do. It is some action. Say, "Please advise me." (7)

Affect and Effect:
  - g) As verbs, they differ. To affect some thing is to have some influence upon it. To effect some action is to cause it to happen. As nouns, they also differ. Affect is like affection, related to emotion. Effect is a result.
  - h) Apart and a Part:
 

One is a single word; the other includes two words. "Apart" means two things are separate or away from each other. A "part" means one thing is a portion or an element of another. A wall is usually seen as a "part" of a house, for example, while a fence is seen as "apart" from the house.
  - i) Complement and Compliment:

The change from an "e" to an "i" makes a big difference in these two words. The word "complement" is related to the word "complete." If one thing complements another, then the two together make a whole. In contrast, the word "compliment" is an observation of some good quality in a person. It is considered more sincere than flattery.

j) In Spite:

There is no such word as "inspite." Make sure you use the two words separately, "in" and "spite."

k) Isn't it?

When you make a statement, then immediately ask if it is not true, you can use "isn't it" only if the question used the verb "to be" (ie "is" or one of its forms), the original question was positive, and if the subject of the sentence is third person singular (it). It is correct to say, for example, "It is coming, isn't it?"

l) Loose and Lose:

The two words, "loose" and "lose," look similar, especially to those who speak English as a second language. It is easy to mix them up. The word, "loose," means something is not tight or securely fastened down. It might easily fall apart or fall off. The word "lose," in contrast, means to have something go away and become lost.

m) Passive Voice:

Using the passive voice is a common way to say less than people want to read or hear. In the passive voice you say, "The orange was eaten." That way you hide the subject and so do not reveal who ate the orange. If you use the active voice, you must reveal the subject. "Aziz ate the orange." The active voice is simpler, and it always identifies the subject, i.e. who did the action. Nothing is hidden.

Always use the active voice in writing an academic paper or dissertation.

n) Subject-Verb Agreement Errors

- i. Incorrect: *The data is clear.*
- ii. Correct: *The data are clear.* (Data is plural.)

o) Misplaced or Dangling Modifiers

- i. Incorrect: *Running down the street, the backpack fell off.*
- ii. Correct: *Running down the street, I dropped my backpack.*

p) Redundant Phrasing

- i. Incorrect: *The reason why is because...*
- ii. Correct: *The reason is that...*

q) Unclear Pronoun References

- i. Incorrect: *John told Mark that he needed help. (Who needs help?)*
- ii. Correct: *John told Mark, "I need help."*

r) Improper Use of "Which" and "That"

- i. Incorrect: *The book which I borrowed was interesting.*
- ii. Correct: *The book that I borrowed was interesting. ("That" is restrictive.)*

(This is compiled from various sources).

## **6. Guidelines for Structuring Contents**

### **6.1 Cover page**

- The title of the File, author, school/department, month and year of submission along with the logo of the university will be included on the first cover.
- It is important that a standard format should be followed to prepare the content of the File which is being submitted in partial fulfillment of the requirements of the respective degree. (See specimen A)

### **6.2 Sequence of contents**

- The File consists of following parts and the below sequence for the File organization should be followed:
  - a) Preliminary part
    - i. Title page (Specimen A)
    - ii. Declaration by the author (Specimen B)
    - iii. Certificate from supervisor (Specimen C)
    - iv. Acknowledgement

- v. Abstract (max. 1000 words)
- vi. Table of contents
- vii. List of figures
- viii. List of tables
- ix. List of acronyms / abbreviations (Specimen D)
- x. List of symbols etc. (wherever applicable)

b) Body of File

- i. Introduction (chapter 1)
- ii. Text of File (chapter 2,3,4 etc.)
- iii. Summary and conclusions
- iv. Appendices
- v. List of references, Bibliography
- vi. Publications by the candidate
- vii. Swayam Certificate

• **Preliminary part**

a) Title page: Title page is same as that of cover page. This could be like: Title/Author/ A File submitted for the degree of Btech in the school of \_ \_ \_ along with the year and month of submission.

b) Declaration by the author: (see specimen B) the wording required is as follows:

I hereby declare that this submission is my own work and where others ideas or words have been included; I have adequately cited and referenced the original sources. I also declare that I have adhered to all principals of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea / data / fact / source in any submission. I understand that any violation of the above will be cause for disciplinary action by the institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

(Signature/name/date)

c) Certificate from supervisor(s) – (see specimen C)

This is to certify that the File entitled <title> submitted by <name> to school of \_ \_ \_  
\_ \_ for the award of the degree of B.tech is a bonafide record of the project work carried  
out by him/her under my (own) supervision and guidance. The content of the File in  
full or parts have not been submitted to any other institute or university for the award of  
any other degree or diploma.

Signed by supervisor(s)

With name(S) and date

Place:

Date:

- d) Acknowledgements: the acknowledgements by the candidate can be included here.
- e) Table of contents: the contents should list the chapter headings, sections and subsections of the different chapters along with page numbers.
- f) List of figures: list the number and captions of the figures with page numbers.
- g) List of tables: list the number and titles of the tables with page numbers.
- h) List of abbreviations: it should be arranged in alphabetic order.
- i) List of symbols: list the Greek symbols first next English letters in this order.

- **Body of File**

- a) Introduction: Introduction shall be the first chapter of the File. It should outline the aim and scope of the work presented in the File. It shall justify and highlight the

problem posed.

- b) Text of File: this includes all other chapters inclusive of headings, subheadings, tables, figures, etc.
- c) Summary and conclusions: this usually forms the last chapter of the text. ‘Scope for future work’ may be followed after this chapter.

- **Appendices**

- a) Supplementary illustrative material, lengthy derivations, raw experimental observations, computer programs, tables of raw data, questionnaires, letters, original historical source material, data files that are too large to be represented simply in the results, chapter are included here and represented as APPENDIX A, APPENDIX B etc.

Each appendix with its title should be listed separately in the table of contents. Likewise, tables and figures contained in the appendices are to be included in the list of tables and figures respectively.

- **List of references**

- a) **For Departments coming under Engineering Branch**

- i. References can be numbered as [1], [2], [3] etc. in the order in which they are referred to in the body of the File will appear “as stated in [53] or in [54]-[58]” etc. as in IEEE format. e.g.:

[53] Langelaar G.C., Setyawan I., Lagendijk R.L., “Watermarking Digital Image and Video Data”, *IEEE Signal Processing Magazine*, vol. 17, pp. 20-43, Sep. 2000.

- ii. An alternative way as mentioned in some journals is to arrange the references in the alphabetical order of the names of authors in which case the reference in the body of the File looks like” as mentioned in (Chao and Zhen 1970)”. However, for

uniformity, first method (IEEE journals) is to be used.

- **Publications by the candidate**

- a) Articles, technical notes on the topic of the File published by the candidate may be separately listed and may also include reprints of his/her publication after the literature citation. Only publications which are published need to be listed. The first page of the publications and the certificate for the presentations if any should be duly attached with the same. Use American Psychological Association(APA) format for providing the list of scholars publication. In all the papers the first author should be the scholar, second author should be the supervisor and remaining author can be collaborators who are officially recognized and approved.