## Cover/Title Page

Cover Page consists of the institution's name with address, project title, project members, concern department and a submitted date in a correct format.   
  
Defining proper title is the difficult task. A title is the main thesis statement that overall reflects the own idea. It should be clear. For e.g. if developing Smart dress is a concept then "Design an efficient smart dress" can be a title. Whenever you write or define title it should be meaningful and logical.

## Abstract

This is the most important part of the proposal because it is the reviewer’s first impression. Even though it appears at first, write it at last because it is the summary of the proposal. The abstract is a concise description of the project covering objectives, need, methodology and dissemination plans. It should identify the expected outcomes of the project. An ideal abstract should be less than 500 words and fit on one page.

### Abstract contains:

* The background & problem statement;
* The project’s objectives;
* Key project activities; and
* The total project budget.
* Keywords: the words that represent your project

## Introduction

Elaboration on the topic in the correct or logical way, Be specific.  For e.g. If you are a student and you are introducing to your teacher, giving the background of +2, grades with name and address are fine rather explaining all your hobbies and personal matters.

***Note: Avoid giving less information or over information.***

### i. Background

Background of the project will be stated here. Elaborate on why you are doing this project.

### ii. Problem Statement

Well-documented description of the problem to be addressed and what it is important.  Elaborate on what are the problems in the existing system.

### iii. Objectives

The objectives should be correlated with the title. It indicates the expected outcomes of the project, preferably in measurable terms. Objectives should be clear and concise. Objectives can be general/main and specific. The main objective is only one and it is related to the project title for. e.g. If the project title is " E-Ordering System for Restaurants" then the main objective can be" To design and develop an E-ordering system for restaurants. Similarly, the specific objectives can be more than two and it shows that how you going to achieve the main objective. for e.g. In hardware approach, For the given main objective following can be the specific objectives:

* To design and develop the keypad based input section and the RF-based transmitting section that take the order from the user and transmit the order.
* To design and develop the receiving section that receives the data and display in LCD in the kitchen of that restaurant.

For the software-based project on the same topic, the specific objectives can be:

* To design and develop an android application that takes the order from the user and also send a notification to the kitchen section.
* To develop the SQL based database that manages the data from an android application.

## *Note: Representing only specific objectives point wise is also fine.* Literature Review

In this section, you should describe literature that you studied before making a final decision about doing this project work. You should be able to list similar work that has already been done and the outcome of those works. References should be given while citing the algorithms, principles, theories, works, results -outcome etc.

### Few Important Links:

* Researchgate
* IEEE
* ScienceDirect
* Scholar.google.com
* Academia.edu

## Feasibility Study

While doing the project various unexpected problems may arise. So you should be able to predict them. A feasibility study is about the evaluation of the sustainability of your project from the different prospect of cost, technology, and equipment, academic knowledge and time.

## Methodology

How will you be doing it? It is the critical part of the proposal and is the longest part and worth the most points. It is a plan of action for how the objectives will be achieved. This section usually starts with a description of the overall approach, its relevance, effectiveness, and inventiveness. Then it gives details on methodology, the population being addressed and how anticipated problems will be managed.

For ECE projects following are the subsections of methodology:

* Block diagram of proposed system
* Flowchart of proposed system

For software-based projects following are the subsections of methodology:

* Development Model
* Flow Diagram/Project Workflow

***Note: Since literature review also consists of related theory such as waterfall model/spiral model. Avoid explaining these theories in the methodology section.***

## Schedule (Gantt chart)

Gantt charts illustrate the start and finish dates of the terminal elements and summary elements of a project. It describes how long specific tasks or components of the project will take. Include graphical chart representation. You can prepare Gantt chart by using [Microsoft Visio.](https://www.microsoft.com/en-us/store/collections/visio/pc)

## Hardware/software requirements

List the required hardware/software that the project going to use.

## Cost Estimation

Show the overall cost of the project.

## Expected Outcomes

State about what may be the result according to the specific objectives.

## References

The referencing style can be different for different departments such as APA, MLA, IEEE. In engineering IEEE referencing style is preferred for research papers.  Simplified Hardvard style is preferable in academic reports. Here are some examples of APA & IEEE format/style.

### [University paper with two authors]

#### IEEE style

[1] R. Gowarishankar and M. F. Demirkol, “Adaptive M-QAM Modulation for MIMO Systems”, IEEE 2005, University of Hawaii at Manoa, Honolulu, USA, 2005

#### APA style

Gowrishankar, R., & Demirkol, M. F. (2005, April). Adaptive M-QAM modulation for MIMO systems. In Wireless Communications and Applied Computational Electromagnetics, 2005. IEEE/ACES International Conference on (pp. 66-69). IEEE.

### [Proceeding of Conference]

#### IEEE Style

[2] A. Svensson, “An Introduction to Adaptive QAM Modulation Schemes for Known and Predicted Channels”, Proceedings of the IEEE | Vol. 95, No. 12, December 2007 

#### APA Style

Svensson, A. (2007). An introduction to adaptive QAM modulation schemes for known and predicted channels. Proceedings of the IEEE, 95(12), 2322-2336.

### [Book]

#### IEEE Style

[3] T. S. Rappaport, “Wireless Communications: Principles and Practice” Second Edition, Prentice Hall, 2003 

#### APA Style

Rappaport, T. S. (1996). Wireless communications: principles and practice (Vol. 2). New Jersey: prentice hall PTR.

### [Website or Document from any electronic source]

#### IEEE Style

[4] Quantil, "Data Transmission – Parallel vs Serial," 2017. [Online]. Available: https://www.quantil.com/content-delivery-insights/content-acceleration/data-transmission/.

## Report format guidelines

Your report should meet following standards:

**Font Name**: Times New Roman

**Font Size**: 12 pt (for normal text)

**Left Margin**: 1.5 inch

**Right Margin**: 1 inch

**Top Margin**: 1 inch

**Bottom Margin**: 1 inch

**Header and Footer**: 0.5 inch

**Line Spacing:** 1.5

All the text should be justified.

**Before Paragraph**: 6 Pt

Heading should be in the following standard

1. **Heading1** (16 pt, Bold)

1.1 **Heading2** (14 pt, Bold)

1.1.1 **Heading3** (13 pt, Bold)

1.1.1.1 **Heading4** (12 pt, Bold)

## Mistakes or Confusions to Students

* Not clear about tasks
* No proper flow of literature and citation
* Poor grammar
* No consistency
* Ignore the guidelines and report format
* Overambitious
* Limited expertise and exposure
* Confused about task divisions
* Improper time management

#### Finally, let's conclude the blog with following Q&A representing contents for a better project proposal:

**Who will be doing it?** >>>>>Group member

**What you will be doing?**  >>>>>Literature review>>>Title>>>Objective

**Why are you doing this project?** >>>>Background and Problem statement

**How will you be doing it?**>>>>>>>>>>>>>Methodology and Tools

**How long will it take?**>>>>>>>>>>>>>>>>>Gantt chart

**How much will it cost?**>>>>>>>>>>>>>>>>>>Estimation of budget of hardware

#### Also, Project's Objectives should be “SMART”:

* **Specific** to avoid differing interpretations
* **Measurable** to monitor and evaluate progress (preferably numerical)
* **Appropriate** to the problems, goal, and organization
* **Realistic achievable**, yet challenging and meaningful
* **Time-bound** with a specific time for achieving them

#### And, here are the tips to be considered before writing a project proposal:

* Review past project proposals
* Review past project evaluation reports
* Organize groups
* Consult the field related individuals, journals, papers, websites, and books
* Select the topic based on the interests of a group focusing on time, budget and other hardware/software resources.
* & *Read properly the proposal format guidelines set up by the department and strictly follow it.*

*According to Dr. Diwakar Raj Pant, HOD, Department of Computer & Electronics and Communication Engineering, IOE, Pulchowk Campus, Engineering projects must have:*

* Algorithms
* Developing apps only isn’t accepted
* Need mathematical method or model
* Testing  & validation is required i.e. comparing between the conventional system and your system
* Engineering needs the fact and evidence, so be realistic
* Think twice before writing