**“Title”**

Thesis Proposal



Master of Engineering / Masters of Engineering Management

(Power System/ Smart Grid)

Submitted by

Name

(Roll Number)

Prospective Supervisor:

Name:

Designation:

Department:



Department of Electrical Engineering

NED University of Engineering & Technology

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# Abstract/ Summary [maximum 300 words]

An abstract is a short summary of a longer work (such as a dissertation or a research paper). The abstract concisely reports the aims, method, and outcomes of your research so that readers know exactly what the research work/paper is about.

# Keywords

Keywords are important words/concepts found in your research question or thesis. A quick way to pull keywords from a proposal/ research question/ thesis is to choose the most important nouns; all other words are irrelevant.

Use at-least three keywords, one keyword at each line, separated with semi-colon (;) for example.

**Protection; Over current relays; Modelling**

# Background/ Specific Literature Review [use 2000 words maximum exclusing Table, captions and Equations]

The background has to provide the context of the proposed study. It has to talk about

1. the **broader** research area,
2. what the current literature says about the research area/ research problem,
3. what are some of the gaps in existing studies, and how this led to the gap or need you intend to examine in your study.

The background for a proposal must provide a solid start and foundation to the proposal. Therefore, it helps to cite relevant literature and provide necessary statistics to show why your study is needed.

You can use Figures, Tables and Equations in your literature review.

Be sure that the symbols in your equation have been defined before or immediately following the equation.

Use “Eqn. (1)” to refer equation in the text. Figure 1 to refer figure in the text and Table 1 to refer table in a text. Remember

***All equations must be referred in the text.***

***All figures must be referred in the text.***

***All tables must be referred in the text.***

|  |  |
| --- | --- |
| $$\left(1+x\right)^{n}=1+\frac{nx}{1!}+\frac{n\left(n-1\right)x^{2}}{2!}+…$$ | Eqn. (1) |

Table 1: Type Styles

| Table Head | Table Column Head |
| --- | --- |
| Table column subhead | Subhead | Subhead |
| Copy | More table cop |  |  |



Figure 1: Example of a figure caption

All Figures and Tables must be discussed within the text and must be referred in the text before the Figure and Table appeared. For Figure and Table caption, use 10 font size, Times New Roman and bold. Use words rather than symbols or abbreviations when writing Figure axis labels to avoid confusing the reader.

For a good review;

* Add journal and conference papers (published in last 5 years)
* Add summary tables
* Use quantitative results of the papers.
* All research papers (published literature) must be new (published within last 5 years).
* Use end-note® for citations. Use APA 6th format of citation.
* Do not cut paste table and figures of the existing research papers (unless very much necessary).

**Dos and Do-not**

|  |  |
| --- | --- |
| Dos | Do not |
| Writing a good literature review is an art and this should be coordinated, like a story writing. | Literature review heading should be “Literature review of …..(mention topic)” e.g. Literature review of voltage stability, Deep learning, standards. |
| The research question should be clear and crisp, preferably one that can be analyzed quantitatively. | All figures and Table must be cited properly. |
| Picking up the right articles is an art, and one should have clear inclusion and exclusion criteria to perform a relevant review. | Do not include irrelevant paper for increasing the number of pages. |
| Citations should be recent and relevant in the current context. | Do not add ranges of papers (e.g. [10-17]) just to increase the number of papers/ references. |
| Citations should include not only those studies with clear-cut outcomes or inferences, but this could also include those papers or articles that are inconclusive or require further research. This is required for better understanding, avoiding bias, and defining further scope for research. | Citations that are old and outdated in the current context are to be avoided. |
| Critical appraisal of the studies cited with an analytical review of the same is to be done. | Bias in citations that intentionally quote only those that are congruent in their conclusions to the current study should be avoided. |
| Adequate number of citations is often defined by the journal and that needs to be followed. | Not weighing the studies under consideration for the quality of research result in inclusion of poor-quality literature that make the outcomes unreliable. |
| Organize and document the data in a format that best suits and justifies the research study. | Too few or too many citations fail to convey the crux in the correct proportions. |
| Read your write up again and agan for improvement or give your write up to some relevant person for comments on your write up. | Data organized in a haphazard manner becomes inconclusive and does not interest the reader and sends a wrong message about the quality of the study. |
| Similarity Index must be less than 19%. | Do not copy paste the existing papers or review articles. |

One of the example of citation are as follows, (M. M. Aman, Jasmon, Mokhlis, & Bakar, 2012) (Muhammad Mohsin Aman, Jasmon, Khan, Bakar, & Jamian, 2012) (Kirby & Kang, 2008) (Muhammad Mohsin Aman, Ahmed, & Qazi, 2011).

**For heading, sub-heading-sub-sub-heading do not go more than 3 levels (e.g.**

**1.**

**1.1.**

**1.1.1.**

**If the fourth stage is very much necessary, use *a. b. c. d.* but these numbering should not be appeared in the ToC (Table of Content).**

All literature review including figure, text and tables must be cited. Use only APA 6th style format (Paithankar & Bhide, 2010).

# Problem Statement (Not more than 150 words, defining your own problem)

A problem statement is a statement of a current issue or problem that requires timely action to improve the situation. This statement concisely explains the barrier the current problem places between a functional process and/or product and the current (problematic) state of affairs. This statement is completely objective, focusing only on the facts of the problem and leaving out any subjective opinions. To make this easier, it's recommended that you ask who, what, when, where and why to create the structure for your problem statement. This will also make it easier to create and read, and makes the problem at hand more comprehensible and therefore solvable.

# Objectives (maximum three objectives and maximum word count of 100 words)

Objectives specify what the research project proposes to accomplish (do, achieve, estimate, determine, measure, evaluate). In research proposals writing, specific objects are used. Specific objectives are a set or list of sub-objectives, each of which contributes to achieving the general objective.

Objective 1:

Objective 2:

Objective 3:

# Scope of Work

Mention the scope of work or limitation of your proposed work.

# Methodology (define your tasks as per your objectives)

In your proposal, you will have to discuss the methods you will used to do your research. The methodology section should generally be written in the past tense. But in case of synopsis, future tense will use.

Academic style guides in your field may also provide detailed guidelines on what to include for different types of studies. For example, there are specific guidelines for writing an APA methods section. A single objective can be split into many tasks for formulating the Gantt chart.

Objective 1:

Task 1:

Task 2:

Objective 2:

Task 1:

Task 2:

Objective 3:

Task 1:

Task 2:

Table 2: Gantt Chart

|  |  |  |
| --- | --- | --- |
|  | **Year 2022** | **Year 2023** |
| **Objectives** | **Jan-Feb** | **March-April** | **Q3** | **Q4** | **Q1** | **Q2** | **Q3** | **Q4** |
| Objective 1 | **To develop a Smart Switch providing time based, unit based and centralized controlling of system** |
| Task 1 |   |   |   |   |   |   |   |   |
| Task 2 |   |   |   |   |   |   |   |   |
| Task 3 |   |   |   |   |   |   |   |   |
|  Outcome of Objective 1 | Write in your words, what will you achieve after completion of objective 1, which can be gauged. |
| Objective 2 | **Management of home or industrial appliances by developing the mobile application through which smart switches can control.** |
| Task 1 |   |   |   |   |   |   |   |   |
| Task 2 |   |   |   |   |   |   |   |   |
| Task 3 |   |   |   |   |   |   |   |   |
|  Outcome of Objective 2  | Write in words, what will you achieve after completion of objective 2, which can be gauged. |

\*Highlight cells, using following steps ….

Press right click of mouse 🡪 Table properties 🡪 Borders and Shading 🡪 Shading 🡪 Black Select 25%

# Beneficiary of the project

Project beneficiaries are those who will derive some benefit from the implementation of the project. Two types of beneficiaries can be defined: direct and indirect.

## 8.1. Direct Beneficiaries:

Direct beneficiaries can be defined as those who will participate directly in the project, and thus benefit from its existence. Thus all persons who will be employed by the project, supply it with raw materials or other goods and services, or who will use in some way the output of the project can be categorised as direct beneficiaries. Some of the examples are consultant, designers, medical doctors, specific industry, students or others.

## 8.2. Indirect Beneficiaries:

Indirect beneficiaries are often, but not always, all those living within the zone of influence of the project. For example, a patient in a hospital due to a gadget designed for hospital or a doctor, a driver on a road due to some application designed for traffic management system.

# Targeted Sustainable Development Goals (SDGs) – Explain also how the selected goal will link to your research work?

The 17 sustainable development goals (SDGs) to transform our world:

GOAL 1: No Poverty

GOAL 2: Zero Hunger

GOAL 3: Good Health and Well-being

GOAL 4: Quality Education

GOAL 5: Gender Equality

GOAL 6: Clean Water and Sanitation

GOAL 7: Affordable and Clean Energy

GOAL 8: Decent Work and Economic Growth

GOAL 9: Industry, Innovation and Infrastructure

GOAL 10: Reduced Inequality

GOAL 11: Sustainable Cities and Communities

GOAL 12: Responsible Consumption and Production

GOAL 13: Climate Action

GOAL 14: Life Below Water

GOAL 15: Life on Land

GOAL 16: Peace and Justice Strong Institutions

GOAL 17: Partnerships to achieve the Goal

Use maximum 3 SDGs in your work.

# Resources (covering available resources and required resources- software as well as hardware)

The budget is a representation of the expenses associated with the proposal project. The Budget Justification contains more in depth detail of the costs behind the line items, and sometimes explains the use of the funds where not evident.

Table 2: Resources of the project

|  |  |  |  |
| --- | --- | --- | --- |
| **S. No.** | **Item/ Resources** | **Estimated Cost** | **Remarks\*** |
| Available items/ resources |  |
| 1. | Hardware, Meters, Software, consultant, Labs |  |  |
| 2. |  |  |  |
| 3. |  |  |  |
| 4. |  |  |  |
| Unavailable Items |  |
| 1. | Hardware, Meters, Software, consultant, Labs |  |  |
| 2. |  |  |  |
| 3. |  |  |  |
| 4. |  |  |  |
| 5. | Data gathering (Travelling) |  |  |
|  |  |  |  |

**\*(If resource is available - mention the location where the resource is available.**

**If resource(s) are not available- how will you manage them?)**

# References (Use APA 6th style formatting only)

Aman, M. M., Ahmed, M. Q., & Qazi, S. A. (2011). Digital Directional and Non-Directional Over Current Relay: Modelling And Performance Analysis. In.

Aman, M. M., Jasmon, G. B., Khan, Q. A., Bakar, A. H. B. A., & Jamian, J. J. (2012). *Modeling and simulation of reverse power relay for generator protection.* Paper presented at the 2012 IEEE International Power Engineering and Optimization Conference (PEOCO) Melaka, Malaysia.

Aman, M. M., Jasmon, G. B., Mokhlis, H., & Bakar, A. H. A. (2012). Optimal placement and sizing of a DG based on a new power stability index and line losses. *International Journal of Electrical Power & Energy Systems, 43*(1), 1296-1304. doi:<https://doi.org/10.1016/j.ijepes.2012.05.053>

Kirby, B., & Kang, H. (2008). MODEL BASED DESIGN FOR POWER SYSTEMS PROTECTION RELAYS, USING MATLAB & SIMULINK. In.

Paithankar, Y. G., & Bhide, S. (2010). *Fundamentals of power system protection*: PHI Learning Pvt. Ltd.

**COMPLIANCE REPORT**

1. 🗆 I have strictly followed the template provided by the department.
2. 🗆 Similarity index of my **overall** proposal is less than 19% and I have attached Similarity Index report of Turnitin (only last page showing overall similarity).
3. 🗆 I have discussed my proposal with my supervisor(s) and he has gone through the project proposal and he has no objection in submitting this proposal.

Is this the revised proposal? If yes, go to checklist number 4, else leave this unchecked.

1. 🗆 Comments provided by the committee has been added in the revised proposal and my supervisor has approved this revised proposal.

**Signature:**

Signature of Student along with name/date/ contact number:

Supervisor Signature along with name/ date/ stamp:

**Comments from members of Seminar:**

Please address all comments.

|  |
| --- |
| **Dr. Atta Ullah Khwaja**  |
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|  |
|  |
|  |
| **Dr. Muhammad Mohsin Aman** |
|  |
|  |
|  |
| **Dr. Riaz Uddin** |
|  |
|  |
|  |
| **Dr. Abdul Rehman Javid Shaikh** |
|  |
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|  |
| **Dr. Abdul Ghani Abro** |
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|  |
|  |

All comments must be added in the revised and final research proposal by the student and need to be verified from the supervisor(s).

Table : Corrections/ compliance of the comments

|  |  |  |
| --- | --- | --- |
| **S. No.** | **Comment** | **Remarks** |
|  | **Dr. Atta Ullah Khwaja**  |  |
| 1. |  |  |
| 2. |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  | **Dr. Muhammad Mohsin Aman** |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  | **Dr. Riaz Uddin** |  |
|  |  |  |
|  |  |  |
|  |  |  |

🗆 I have discussed my revised proposal and comments from the committee with my supervisor and he has gone through the revised project proposal.

**Signature:**

Signature of Student along with name/date/ contact number:

Supervisor Signature along with name/ date:

**For Office Use Only (after final version of research proposal has been received from the student and reviewed by the supervisor):**

***Decision by the Head of Committee/ Chairman / Co-Chairman:***

After careful evaluation of written proposal and candidate’s initial proposal defence, following decision is made on behalf of BoS members and available respected faculty members.

|  |  |
| --- | --- |
| **Tick one** | **Decision** |
|  | Acceptable (after accommodating all comments from the reviewers) |
|  | Major Revision (after accommodating all comments from the reviewers)  |
|  | Minor Revision (after accommodating all comments from the reviewers) |
|  | Rejected |

(please 🗸 tick one)

|  |
| --- |
|  |
| Head of Committee/ Chairman / Co-Chairman |

**For Office Use Only (after completion of the first three credit/ six credit hours):**

*As per prospectus 6.4.2 (iv),*

“Satisfactory performance of the first three credit hours of a thesis shall be based on an Evaluation of conducted during first two weeks of second semester of enrolment in thesis. The candidate shall be required to present his/her work in a **departmental seminar** for such evaluation.”

***Decision:***

After careful evaluation, and candidate’s research work presented in a departmental seminar, following decision is made:

|  |  |
| --- | --- |
| **Tick one** | **Decision** |
|  | 50% work has been completed. |
|  | Less than 50% work has been completed, but student can complete the thesis work within next semester.  |
|  | Less than 50% work has been completed, but student can complete the thesis work within next two semester (an additional semester will be required). |
|  | Unsatisfactory/ Poor performance, student must enrolled in two courses. |

(please 🗸 tick one)

***Examiner 1 (Supervisor):***

***Name:***

***Designation:***

***Signature:***

|  |
| --- |
|  |
| Head of Committee/ Chairman / Co-Chairman |

**For Office Use Only (after completion of the thesis):**

*As per prospectus 6.4.3 (iv- v),*

**iv)** The Vice Chancellor of the University, on the recommendation of the Board of Studies (BoS), shall nominate an Examiner’s Committee comprising of at least two examiners including the Supervisor. Examiner (other than the supervisor) may also be from outside the University.

**v)** The evaluation of Thesis shall be done in the following manner:

|  |  |
| --- | --- |
| a. | Requirement fulfilled without any corrections |
| b. | Requirement fulfilled contingent to major corrections |
| c. | Requirement fulfilled contingent to minor corrections |
| d. | Fail |

***Decision by the Examiner(s):***

**Examiner 1 (Supervisor) (Name/ Designation/ Department):**

|  |  |
| --- | --- |
| a. | Requirement fulfilled without any corrections |
| b. | Requirement fulfilled contingent to major corrections |
| c. | Requirement fulfilled contingent to minor corrections |
| d. | Fail |

(please 🗸 tick one)

**Signature and Date (Examiner 1):**

**Examiner 2 (Name/ Designation/ Department):**

|  |  |
| --- | --- |
| a. | Requirement fulfilled without any corrections |
| b. | Requirement fulfilled contingent to major corrections |
| c. | Requirement fulfilled contingent to minor corrections |
| d. | Fail |

(please 🗸 tick one)

**Signature and Date (Examiner 2):**