**Name = Jawad Shah Id= 15550 Subject= Research Methodology**

**Q1.**

***Research Proposal***

**Title:**

**Temperature and wind impacts on sag and tension of AAAC overhead transmission line**

**Background:**

This research is actually about the impacts of temperature and wind on transmission line of all aluminum alloy conductor. The transmission part in the power system causes most of the loses. And these types of loses depends upon resistance, inductance and capacitance. Height, capacitance and tension of transmission lines are related to each other and depends upon one another. For instance, increase in height of line decreases the capacitance by increasing the tension in the line. Therefore, transmission lines are connected in a curve like shape or catenary called sag. Sag must be provided to minimize tension. This paper basically provides a simulation setup to find out sag and tension of AAAC transmission line with impact of weather conditions.

**Research Questions:**

* What is tension in transmission line?
* Why do transmission line sag?
* What is the effect of rise in temperature on sag when ice and wind effects are eliminated?
* What are the factors affecting sag?
* How do you calculate sag and tension?
* What is the effect of wind pressure on sag calculation?

**Research Methodology:**

There is analysis of different operating conditions considering different equal span lengths of sag tension of AAAC transmission line. We use the tool ETAP for calculation. Themodule of ETAP containing an analytical strength for transmission and distribution line sag and tension calculation. It is low cost and easily available simulation software to calculate the appropriate sag and tension in order to ensure appropriate operating conditions on the overhead transmission lines. There are four different cases are considered for sag and tension estimation of AAAC overhead conductor in transmission lines. For all these conditions the height of tower was same but operating conditions of temperature are different.

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**Conclusion:**

This research is based on four different cases for sag-estimation of AAAC overhead conductor in transmission lines. These four cases are depending on weather condition.

**Q2.**

**Title**

**Influence on Power Budget and Transmission Power Penalties in High Capacity Long Haul Optical Networks of Nonlinear Impairments**

***Abstract:***

Fiber-optic communication systems primarily when recruit in the nonlinear medium, actually do not perform correct result as theory would theorize. This researched paper is the theoretical overview, power budget and transmission power penalties of the high capacity long haul optical network under the influence of nonlinear impairments. The given model is affirmed using important nonlinear aspects like effective area, launch power, received power, refractive index and length of the fiber. The power budget and transmission performance of the high capacity long haul optical network are resolve on the basis of bit error rate and optical signal noise to ratio against launch power, length of the fiber, productive area and nonlinear refractive index. The simulation results patent useful effect of nonlinear impairments on power budget and transmission power penalties of the high capacity long haul optical networks.

Technical Mistake in paper :

There is an abbreviation error in the word Radio Data System RDS.

**Q3.**

**Plagiarism:**

Representation of someone else thoughts, Language, Expresions and Ideas as one's own original work. Plagiarism is also considered as breach of journalistic Ethics and academic dishonesty.

**HEC Policy & Criteria**

According to HEC if a student is found in act of plagiarism, Then according to policy they will take one or combination of action from the following against the student/students found guilty of the offence. There are three categories for Plagiarism.

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It is the case when some paragraphs including some key results is copied without citation. Which results The offender may be relegate to lower class and black listing of the author which may be published in the print media or publicized on websites.

**Major Penalty**

It is the case when most of paper is exactly copied from someone else published orignal work without giving reference. Which may result the offendr rusticated/expelled from univesity and also can not join any institute of Higher Education in Pakistan for the period of time appropriate by Plagiarism Standing Comitte, Black Listed and may not be eligible for employment in any academic/ research organization and may be black listing of the author which may be published in the print media or publicized on websites at the discretion of the ViceChancellor / Head / Rector of the organization.

**Q4.**

**HEC JOURNAL RECOGNITION AND RANKING CRITERIA:**

Journal Recognition system is a system introduced by HEC where high quality work is rewarded and promoted and the main purpose of which is to differentiate between high class/ world class researchers and normal researchers. The ranking is based on many factors some of them are given below

1. A jorunal will be eligible for positioning in HRJS only if it will be index to thomson web of since or index which is recognized by HEC

2. It will also depends on Eigen factor, which means how much time researchers spend with that journal

3. Each journal is a measure of the per-article citation influence of the journal. which tells us that how much the articles of a journal have influenced the knowledge in a given subject area which is also a factor.

There are three categories W, X and Y are selected for the high and low rank papers in which W is the highest and Y is the lowest and also a threshold is selected that which paper will fall in which category. the W category journal may be downgraded to X or Y and the Y or X category Journal cabn be Upgraded to W category in Future.

