

# KL UNIVERSITY

## DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

<b>DATE</b>	: 18-07-2017
<b>TIME</b>	: 4:00 P.M to 5:00PM
<b>EVENT</b>	: Staff Colloquium
<b>SPEAKER NAME</b>	: T.Barath Kumar
<b>RESEARCH GROUP</b>	: Power Systems
<b>TOPIC TITLE</b>	: “Evaluation of Power Capacity Availability at Load Bus in a Composite Power System”
<b>VENUE</b>	: E104, K L University
<b>FACULTY INCHARGE</b>	: G.Mamatha

### **EVENT DESCRIPTION:**

“**Staff Colloquium**” is an activity organized by, Dept. Of E.E.E of KL University on 11-07-2017 from 4.00 P.M to 5:00 P.M. The Seminar is given by Dr.T.Barath Kumar, Assistant. Professor, Department of Electrical Engineering, KL-University. The topic of the Seminar is “Evaluation of Power Capacity Availability at Load Bus in a Composite Power System”. In order to contribute to the Power systems Research group mission, Seminar is organized in EEE Department to bring awareness among the faculty, E.E.E department of K L University regarding the Different Research Areas.

### **SEMINAR IN BRIEF:**

The evaluation of reliability of a composite power system is essential for the modern power system to assess the capacity to supply continuous power to the consumers. The power system network is affected by various uncertainties such as equipment failures and random variations in power generation and load demand. All these factors and complex network topology with a large number of equipment components lead to difficulties in the assessment of reliability in a composite power system. In this paper, reliability evaluation is carried out to estimate the power capacity availability at load bus in a composite power system. The composite power system considered here is a microgrid consisting of a conventional power generating unit, power transformer, wind farm, and four loads. New simplified predictive models have been suggested for the estimation of ambient temperature and wind velocity and validated with the actual weather data collected from Meteorological and Oceanographic Satellite Data Archival Centre, India. Using these models, wind velocity and ambient

temperatures are predicted one day ahead to estimate the transformer tank temperature, from which the transformer derating factor and the power injected into the microgrid are computed. The proposed methodology is aimed to obtain the power capacity availability at load bus, the limits on the available power capacity variation, and corresponding confidence limits.

**PHOTOS:**



Assistant Prof. Dr.T.Barath Kumar delivered a Seminar on “Evaluation of Power Capacity Availability at Load Bus in a Composite Power System”



Faculty of Electrical Department listening the Seminar