

KRISHNASAMY

College of
ENGINEERING & TECHNOLOGY

Approved by AICTE & Affiliated to Anna University
Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109, Tamil Nadu.
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DEPARTMENT OF EEE

05.07.2023

CIRCULAR

Ref.: KCET/EEE/VAC/CIRCULAR/2022-23/01.

The following Value Added Course will be conducted during the academic year 2022-2023. The course will be conducted from 17.07.2023 to 21.07.2023. Students are instructed to register their names in the course allotted to them.

Note: Students are instructed to attend the program without fail.

S.No.	Course Code	Name of the Course	Year	No. of Period	Course Coordinator
1	EE-VAC2203	MODERN CONVERTERS	II	30	Mr.R.Srinivasan ASP/EEE
2	EE-VAC2204	POWER SYSTEM STABILITY	II	30	Dr.D,Periyazhagar AP/EEE

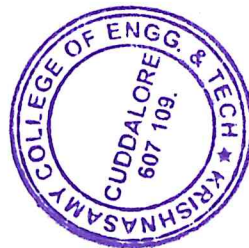

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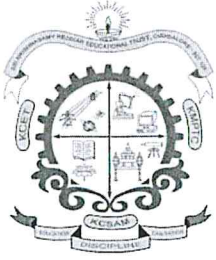
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DEPARTMENT OF EEE

SYLLABUS

Subject Code: EE-VAC2204

Subject Name: POWER SYSTEM STABILITY

Duration: 30 Hours

OBJECTIVES:

- To distinguish between the different types of power system stability studies
- To impart knowledge on modelling of a synchronous machine for stability analysis
- To understand the concept of small signal stability
- To study the various solution methodologies for transient stability analysis

MODULE I INTRODUCTION TO POWER SYSTEM STABILITY 8

Basic concepts and definitions- classification of stability -Rotor angle stability, voltage stability and voltage collapse -Distinction between mid-term and long-term stability-Nature of system response during severe upsets-blackouts around the world – ill effects of instability.

MODULE II SYNCHRONOUS MACHINE REPRESENTATION 8

Need for reduced order models – stability of interconnected systems - Simplifications essential for large scale studies – Constant flux linkage model – Reactive capability limits.

MODULE III SMALL SIGNAL STABILITY 7

State space representation – Eigen values - Modal matrices - Small signal stability of single machine infinite bus system – Effect of field circuit dynamics - Effect of excitation system

MODULE IV VOLTAGE STABILITY ANALYSIS 7

Difficulties with reactive power transmission – Steady state stability analysis of two bus system using PV and QV curves – Voltage stability assessment using indices



TOTAL:30 PERIODS

COURSE OUTCOMES:

- Familiarize with the different types of stability in power systems.
- Understand the modelling of synchronous machine
- Understand the significance about small signal stability analysis and its enhancement.
- Know the significance of voltage stability analysis.

TEXT BOOKS:

1. Kundur P, "Power System Stability and Control", McGraw Hill Education, 2006.
2. Taylor C W, "Power System Voltage Stability", McGraw Hill, Inc., 1994.

REFERENCES:

1. Anderson P.N, Fouad, A.A, "Power system control and stability", Wiley India, 2008.
2. Sauer P W and Pai M A, "Power System Dynamics and Stability", Pearson, 2003


HOD/EEE 28/6/23

