

COURSE	Name : Introduction to power system
	Code : EE184402
	Credits : 3
	Semester : IV

Description of Course

Basic courses of electric power system explain about electric energy conversion principle, current and future energy problem, electric power distribution process and distribution system, basic principle of energy change through electrical appliance called electric machine that is generator and motor.

Learning Outcomes

Knowledge

(P02) Mastering the concepts and principles of science and engineering mathematics, and implementing them in the form of procedures for analysis and design in power systems, control systems, multimedia telecommunications, or electronics.

Specific Skills

(KK01) Able to formulate engineering problems in power systems, control systems, multimedia telecommunications, or electronics.

General Skills

(KU11) Able to implement sustainability principles and develop knowledge.

(KU12) Able to implement information and communication technology (ICT) in the context of implementation of his/her work.

Attitude

(S06) Working together, having social sensitivity and caring for community and environment.

(S09) Demonstrating attitude of responsibility on work in his/her field of expertise independently.

(S12) Working together to be able to make the most of his/her potential.

Course Learning Outcomes

KNOWLEDGE

1. Understand the principle of conversion of electrical energy and the process of distribution and distribution of electrical power and its signature index.
2. Understanding current and future energy problems.
3. Understand the basic principle of energy changes through electrical equipment called electrical machines namely generators and motors.

SPECIFIC SKILL

- Able to explain the principle of electrical energy conversion and the process of distributing and distributing electrical power along with its signature index.
- Able to make an article about energy problems that occur today and in the future.
- Able to model equipment of electrical equipment model using application software.

Main Subjects

1. Introduction of power generation systems and renewable energy.
2. The energy conversion mechanism including electromagnetic circuit.
3. Single phase and 3 phase systems (power, voltage, current, star delta conversion).
4. Synchronous generator and induction motor.
5. Basic Transformer.
6. Introduction of transmission system.
7. Basic system of distribution including distribution system reliability index.

Reference(s)

- [1] Gupta, Transmission and Distribution, 1997
- [2] Pabla, AS, Sistem Distribusi Daya Listrik, Penerbit Erlangga
- [3] Luces M. Faulkenberry, Electrical Distribution and Transmission, Prentice Hall ,1996
Electrical Transmision & Distribution Reference Book, CSE WestingHouse EC.

Prerequisite(s)

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