COURSE	Name	: Transformer Technology
	Code	: EE185611
	Credit(s)	: 2
	Semester	: (Elective Course)

Description of Course

This course deals with design techniques, diagnosis, and maintenance of transformer. In electric power systems, the role of power transformers is very important to increase and decrease the voltage on the transmission and distribution lines. Whereas instrumentation transformer is used as main equipment in electric power measurement system. In current technological developments, the use of high frequency transformers greatly supports the performance and investment needs of converter equipment or power electronics power. Based on these considerations, the transformer types discussed are power transformers, instrumentation or measurement transformers and high frequency transformers.

Learning Outcomes

Knowledge

(P01) Mastering the concepts and principles of science in a comprehensive manner, and to develop procedures and strategies needed for the analysis and design of systems related to the field of power systems, control systems, multimedia telecommunications, electronics, intelligent multimedia network, or telematics as a preparation for further education or professional career.

Specific Skill

(KK01) Being able to formulate engineering problems with new ideas for the development of technology in power systems, control systems, multimedia telecommunications, electronics, intelligent multimedia network, or telematics.

General Skill

(KU11) Being able to implement information and communication technology in the context of execution of his/her work.

Attitude

(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

Mastering and understanding the design concept of power transformer, design, diagnosis, and maintenance of transformer. The types of transformers discussed in this course include power transformers, instrumentation transformers or measurements and high-frequency transformers

Specific Skill

Capable of explaining the design principles of power transformers, instrumentation transformers (CT and PT), and high frequency transformers.
Able to explain diagnostic techniques and maintenance of power transformers, instrumentation transformers (CT and PT), and high frequency transformers.

General Skill

Able to understand the flow of scientific journal writing and able to do a review journal.

Attitude

Demonstrate a responsible attitude towards the work in his own field of expertise independently.

Work together to be able to take full advantage of the potential possessed.

Main Subjects

1. Introduction: Type of transformer, the use of transformer, transformer specifications and the development of transformer technology
2. Design principle of Power Transformer
3. Design principle of Instrument Transformer
4. Design principle of High Frequency Transformer
5. Maintenance and diagnosis of Power Transformer
6. Maintenance and diagnosis of Instrument Transformer
7. Maintenance and diagnosis of High Frequency Transformer
8. Journal Review

Reference(s)

[1] Xose M. López-Fernández, H. BülentErtan, JanuszTurowski, “Transformers: Analysis, Design, and Measurement”, CRC Press; 1 edition (June 27, 2012), ISBN-10: 1466508248

[2] S. D. Myers, J. J. Kelly, R. H. Parrish, E. L. Raab, A Guide to Transformer Maintenance, S D Myers Inc (June 1, 1981) ISBN-10: 0939320002.

[3] John J. Winders, Jr, Power Transformers Principles and Applications, Marcel Dekker, Inc. 2002

[4] Beberapa jurnal tentang peluahan sebagian dari international Journal

Prerequisite(s)

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