



**THE UNITED REPUBLIC OF TANZANIA
INSTITUTE OF ACCOUNTANCY ARUSHA**



**SHORT COURSE ON TRANSFORMER AND HIGH VOLTAGE
SUB-STATION SYSTEMS**

1. INTRODUCTION

Working with high voltage systems is naturally hazardous, and the best defense against incidents is a thorough understanding of safe working practice. Due to the advancement of technology we have designed a courses which is applicable to a wide range of all types of high voltage systems, and is designed to meet recommended standards of technical skills required to all personnel heading technical departments and or technicians working with high voltage systems in their working places.

(a) COURSE OVERVIEW

The course is designed to give participants a detailed understanding of high voltage safety, reflecting both industry best practice and current legislation whilst satisfying National Policy on High Voltage Systems. This course will also cover the maintenance and technological testing requirements for common substation devices, including power transformers, oil, air and vacuum circuit breakers, switchgear, ground grid systems, batteries, chargers and insulating liquids. This course focuses on what to do, when to do it and how to interpret the results from testing and maintenance.

3. LEARNING OBJECTIVES

- (a) The typical structures of a sub-station;
- (b) The most important components of a sub-station;
- (c) Typical sub-station protection parameters;
- (d) Sub-station grounding system requirements;

- (e) Sub-station safety and safety operation; and
- (f) Best sub-station maintenance practices.

4. COURSE MODULES

In this course the following modules will be covered:

- (a) Safety with high voltage;
- (b) System components;
- (c) Risk & injury;
- (d) Safe systems of work;
- (e) Hazardous areas;
- (f) Introduction to transformer;
- (g) Functions of transformers;
- (h) Transformer construction (theory);
- (i) Tank, core, coils, types and ratings;
- (j) Bushings, tap changers;
- (k) Factory testing;
- (l) Dry, oil and liquid filled types;
- (m) Substation protection;
- (n) Substation grounding systems;
- (o) Substation testing and commissioning and
- (p) Basic technical reporting skills.

5. COURSE DELIVERY METHODOLOGY

Although the course takes place in a class room but the training method is dynamic with a focus on skills practice. The course will be conducted through lectures, discussions and case studies analysis. Participants will be offered an opportunity to refocus, refresh and rededicate. Participants will visit some of POWER SUB-STATIONS as a field work and

TANALEC, one of the leading transformer factory to explore more about transformer manufacturing.

6. FEES AND MODE OF PAYMENT

The fee for the course is **TZS 2,000,000/=** (two million only). Payment may be in cash, cheques or bankers draft or TISS directly to the Institute of Accountancy Arusha Bank Account **No. 014103007130 NBC**, Arusha Branch.

7. DATES & VENUE

This course will be conducted for two weeks (ten working days) from **April 23 – May 04, 2018** at the Institute of Accountancy Arusha – Njiro Hill.

8. CONTACT PERSONS

For more details, kindly contact the following people:

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We thank you for your cooperation and support, kindly confirm your attendance one week before the commencement of the course for our preparations.