



SIEMENS

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Report
on training for

Basic LV - Switchgear and Motor

In collaboration with

Siemens Ltd India. (SITRAIN)

Organized By

**Centre for continuing education (CCE)
SPCE**



Introduction

Centre for continuing education (CCE) of SPCE introduced 7 Value Added Technical Courses in coordination with industry. Under that, five days industrial training was organized for the course "Basic LV Switchgear and Motor" at Siemens kalwa works from 2 to 6 December. The training was attended by 20 students of Third year Electrical.

Objectives :

Participants will understand the working of Circuit Breaker.

Participants will be able to distinguish all types of Circuit Breaker.

Brief Description :

Training on Basic LV Switchgear Started with the pretest, to check the knowledge of students about the topic before training. After test, trainer gave introduction of LV Switchgear. (i.e. Complete Overview of Switchgear along with definition, The types of circuits breakers,selection criteria of circuit breakers,relays,contactors etc.) Then Circuit breaker selection criteria explained to select the hardware as per requirements from available range, such as Air circuit Breakers, MCCB, MPCB and their optimum uses . Description of available range & versions of software as per hardware is also explained.

While getting familiar with the basic idea of Power distribution basics, Training focused on the basic idea of generation, transmission and distribution and how protection via switchgear is essential for the highly efficient working of power supply system.During that process, we were given real life examples and numericals to relate to the topic.We were taught the criteria for selection of circuit breakers moving to 3 stages of power supply.

After getting a grasp on PD basics, We were given a detailed session of 2 days on Air Circuit Breakers.This session included the various factors likes Range of ACB,Types of ACB(Fixed Mounted and Withdrawable). We had also been given the opportunity to do hands-on on some of the ACBs in the training sessions.The trainer helped us



to understand the concepts with simple and relatable examples. We were made aware of the faults occurring in the power system (that included L S I N G faults)

While learning MCCB and MPCB, the trainer helped us build a fundamental concept for MCCB and then helped us learn how MPCB worked for protection of motors using MCCB concept but in an efficient manner. We learnt the operation principle, working mechanisms and optimum selection of Circuit breakers. We gained the knowledge of selection of circuit breakers depending on the faults and the corresponding loads we were using. We learnt functioning of relays and contactors. Finally we were taught the co-ordination between all these systems.

On the last day, the training ended with a post test and a summary on the topics covered in entire training.





Conclusion:

The Industrial training on LV S Conclusion:witchgear arranged at Siemens was highly successful. All the participants took active part in all the five days of the training. Participants received insight of the LV switchgear right from its introduction to its applications in industry and day to day life. Exercises given by the trainer helped participants to absorb theoretical knowledge effectively. The whole system was explained in-depth by the trainer with detailed description of every component of hardware (ACB, MCCB, MPCB,contactors,relays etc). Also, While performing hands on the above mentioned switchgear equipments, all doubts were cleared till the every participant successfully understood the physical handling of equipments. Feedback forms shows that every participant is satisfied with the training. This kind of industrial training helped participants to improve their technical skills and they would highly appreciate more such trainings in the future.