



Education in Electromagnetic Metrology in Developing Countries like India – an Introspection

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In Metrology labs, usual activities include the maintenance of reference standard, assessment of its performance, calibration and testing of device under test. To perform these duties, it is essential that the concerned persons acquire adequate knowledge and experience in the relevant fields. The experience is acquired with time but there should have easily accessible and reliable sources of training and education.

Metrology (measurement science) is an interesting but unusual profession in India.. Consequently, particularly in India there is no formal course in the university or degree colleges. There may be some modules on instrumentation and measurements in some courses of engineering. But this does not at all cover any aspects of metrology.

Persons involved in Metrology profession get exposed to the field by scattered training courses conducted infrequently in India and abroad. The events organized outside India may not mostly be accessible purely due to problem of travel funding.

In Metrology, the testing and calibration techniques quite significantly vary depending on the categories based on low, medium and high precision and accuracy. High order of accuracy is mainly required by apex laboratories like NMIs. Low and medium categories are the requirement of secondary laboratories and industries. So accordingly the training and education would vary substantially.

An important activity of the MNI of India - NPL organizes Training Courses on various physical parameters in the area of Metrology / Standards, as well as on other specialized topics. These courses are primarily meant for personnel belonging to various industries, Testing & Calibration laboratories and other S & T organizations. These courses are attended by a large number of personnel belonging to various national & international organizations, including a few from NPL also.

In addition, few other relevant organizations like National Accreditation Board for Laboratories (NABL), Quality Council of India (QCI), and Bureau of Indian Standard (BIS), Metrology Society of India (MSI) etc conduct some training courses.

In India, the scientists of NMI does not have easy access of higher level of exposure on the current status and technology developed elsewhere .This is a more critical issue in electromagnetic metrology particularly for timing activities..

This paper elaborates on these aspects.