

CY-524 Laboratory Quality Assurance

Overview of Quality Assurance and Quality Control: Need for Quality, General Principle of QA and QC, Quality assurance systems, Valid Analytical Measurements (VAM): Certification versus Accreditation. Salient features of Quality standards GLP, Salient features of Quality standard: ISO 17025

Meteorological Traceability & measurement uncertainty: Comparing of measurement results, Establishing metrological traceability, Top down and Bottom up (GUM) measurement of uncertainty, Tools used for uncertainty estimation.

Reference Materials: Parameters for characterization of reference materials Certified reference materials and their practical applications.

Validation and Qualification of Analytical Methods: Classification and Sources of Methods, Method development and validation cycle, Method validation parameters and approaches, Standard Operating Procedures, Validations based on design qualification (DQ), Installation qualification (IQ), Operational qualification (OQ) and performance qualification (PQ), System Suitability, Method Validation Protocol Method Transfer and Revalidation, Monitoring and quality reviews, Periodical trainings

Interlaboratory Comparisons: Classification, characteristics and organization of interlaboratory comparisons, Presentation and statistical analysis of interlaboratory comparisons.