

M. P. Council of Science and Technology
Quality Assurance Laboratory
Vigyan Bhawan Nehru Nagar Bhopal (M. P.) 462003
TRAINING PROGRAMME 2017
(Name should be filled in capital letters)

Name of Applicant:.....
Father's Name:.....
Mother's Name:.....
Permanent Address:.....
.....
City.....State.....
Contact Number.....Email.....
Date of Birth.....
Nationality.....Gender: Male/Female.....
Category Gen./ST/SC/OBC.....
Educational Qualification from Higher Secondary onwards:

Affix your recent
passport size
photograph with
duly signature

S.No.	Degree with Specialization	School/College/University	Year of Passing	Grade & %

Present Status (Faculties / Research Scholar /Students).....
Training programme preferred.....

Declaration

I hear by declare that all above given information are correct and best to my knowledge and belief. In case of any accident (within or outside the council and laboratory), during the training program there would be no responsibility of the Council Participant would be himself or herself responsible for it and they shall not claim for this.

Date.....

Signature of Candidate

Place.....

COURSE CONTENT

S. NO. 1-2: TRAINING ON “WATER AND SOIL QUALITY MONITORING METHODS”

COURSE DETAIL

This course is designed for Faculties, Research Scholars and Graduate and Post Graduate (Science) student of Madhya Pradesh to understand the detailed standard procedures related to water and soil quality analysis. The duration of course is three days comprised theoretical aspects, practical and hands on activity. A course manual of theoretical and practical method is also provided for detailed description as under:

Water and Soil testing

- Sampling Methods
- Sampling tools and accessories
- Sampling procedures:
- Physico-chemical
- Microbiological examination
- Trace and heavy metals evaluation
- Available Nutrient test parameter and their importance in soil testing

S. NO. 3-4: TRAINING ON TRAINING ON ADVANCED INSTRUMENTATION METHODS AND SPECIFIC INSTRUMENTATION BASED TRAINING

COURSE DETAIL

This course is designed for Faculties, Research Scholars and Under Graduate and Post Graduate (Science) student of Madhya Pradesh to understand the Advanced Instrumentation Methods (04 days) and specific instrument based training (03 days). The course is comprised theoretical aspects and Practical- cum- Demonstration activity. A course manual of theoretical and practical method is also provided

ATOMIC ABSORPTION SPECTROPHOTOMETER (AAS)

Course comprised with fundamental of AAS, theory, application of the techniques used for different sample to estimate metal content, sample preparation, demonstration, and calibration of AAS. Detailed lecture and relevant literature along with coarse manual is also provided to the participants.

FOURIER TRANSFORM INFRARED SPECTROPHOTOMETER (FTIR)

Basic idea of spectrum, instrumentation, interferometer, modern mathematical calculation of Fourier transform, sample preparation interpretation of interferogram, application and uses.

UV-VIS SPECTROPHOTOMETER

Instrument basic theory, component, method development, application, sample preparation operating software, standard curve preparation and interpretation of spectrum.

GAS CHROMATOGRAPH (GC)

Basis concept of chromatography instrumentation columns, injectors, detectors trouble shooting, interpretation, methods and applications.

MICROWAVE DIGESTION SYSTEM

Application of microwave digestion technique for sample preparation to dissolve elements in the presence of organic molecules will be done prior to analysis by the instrumental method of analysis.

S. NO. 5: WORKSHOP ON SPECTROSCOPIC CHARACTERIZATION OF MATERIALS: COMPONENTS, PRINCIPLE AND OPERATION

Background

Spectroscopy is the study of an interaction of radiation and matter, as related to the dependence of these processes on the wavelength of the radiation. Spectroscopic techniques have been applied in virtually all technical fields of science and technology. The spectrophotometer a workhorse of the modern laboratory is not only concerned with the identification and measurement of organic and inorganic compounds in a wide range of products and materials but also a method of choice for characterizing the material in most laboratories working for nucleic acids and proteins, foodstuffs, pharmaceuticals and fertilizers, mineral oils and in paint. In every branch of molecular biology, medicine and the life sciences, the spectrophotometer is an essential aid to both research and routine control.

The workshop and the course manual sets out to present that background for the chemist, biochemist, molecular biologist, geologist, the pathologist, the pharmacist or the metallurgist - almost any scientist whose discipline involves materials analysis - may feel more secure in his or her mastery of the mechanics of spectrophotometry with this introduction to the underlying components, principle of operation and characterization of the material.

This course (03 days) is designed for Faculties, Research Scholars and Under Graduate and Post Graduate (Science) student of Madhya Pradesh. The course is comprised theoretical aspects and Practical- cum- Demonstration activity. A course manual of theoretical and practical method is also provided