CSIR INTEGRATED SKILL INITIATIVE
"Hand hold practical training on scientific instrumentation for development of technically skilled human resource for testing laboratories and industries" (Scope: Herbal, cosmaceuticals, nutraceuticals, pharmaceuticals, aromatic & medicinal plants and products)
CSIR-National Botanical Research Institute, Lucknow

Phytochemical Analysis Technician 200 Hrs

Skill development programme on scientific instrumentation for quality assessment of vegetable oil, essential oil, medicinal plant, food, herbal products and metabolomics using analytical tools (HPLC, GC-MS, LC-MS, HPTLC and AAS) to be undertaken for development of phytochemical analysis technicians. Hand holds practical training to be imparted on scientific instrumentation for phytochemical analysis of medicinal and aromatic plants. The major goal of the training is to develop phytochemical analysis technicians for qualitative and quantitative estimation of biologically active major metabolites of medicinal and aromatic plants using gas chromatography (GC), gas chromatography coupled with mass spectrometry (GC-MS) and liquid chromatography HPLC), atomic absorption spectroscopy etc. The training will also include metabolite profiling of medicinal plants using GC-MS and LC-MS and HPLC to analyze both polar and non-polar metabolites of primary and secondary metabolism of the medicinal and aromatic plant species. The training will provide opportunity to the trainee in various agro, pharma and herbal industries.

Title of the course	Phytochemicals Analysis Technician
Educational qualification	Minimum: graduate in science
Duration	One and half month (6 weeks)
No. of seats	15
Age group	20-50 years

Course fee	Rs 5,000/- trainee (Rs 30,000/trainee Industry/Testing laboratories sponsored).
Venue of commencement	CSIR-National Botanical Research Institute, Lucknow.

Salient features of the course

Theoretical and hand on training to be provided on modern analytical tools such as Gas chromatography (GC), Liquid chromatography (LC), Mass spectrometry (MS), HPLC, HPTLC, GC-MS, LC-MS, AAS to get opportunity as skilled technical human resource (quality analyst) in agro-industries, food industries, pharma/herbal industries and testing laboratories of related fields. The training would be provided in the field of quality assessment of vegetable oil, essential oil, medicinal plant, herbal products and metabolomics using analytical tools (HPLC, GC-MS, LC-MS, HPTLC and AAS):
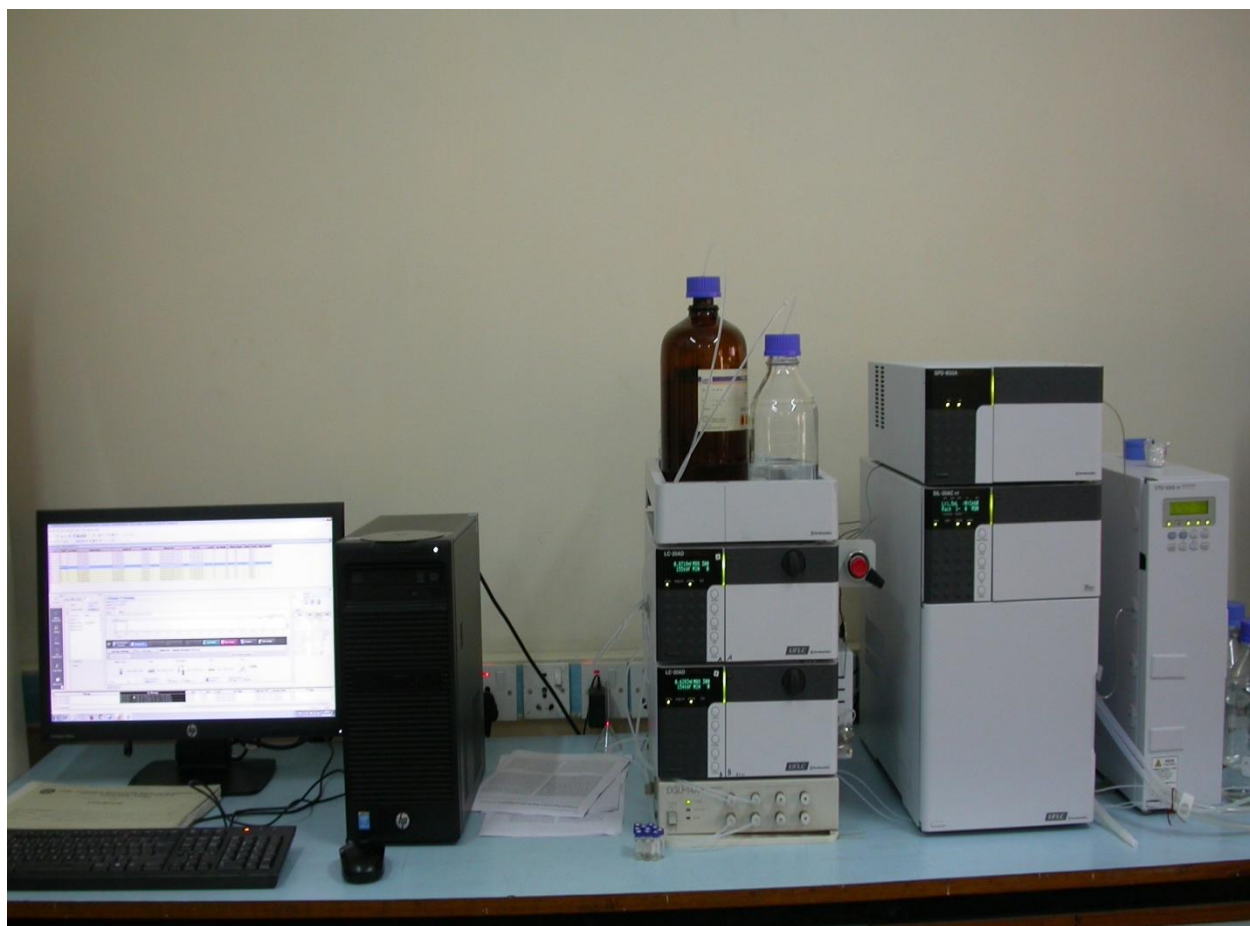
- o Sample preparation
- o Extraction
- o Fractionation
- o Physico-chemical analysis
- o Operation and analysis by GLC, HPLC, GC-MS, LC-MS, HPTLC and AAS
- o Qualitative & quantitative estimation of chemical metabolites
- o Data interpretation
- o Compilation of reports
- o Awareness for NABL accreditation

Evaluation of the participants

(a) Sample analysis: 40 marks

(b) Data interpretation: 20 marks

(c) Preparation of report: 20 marks

(d) Viva Voice: 20 marks
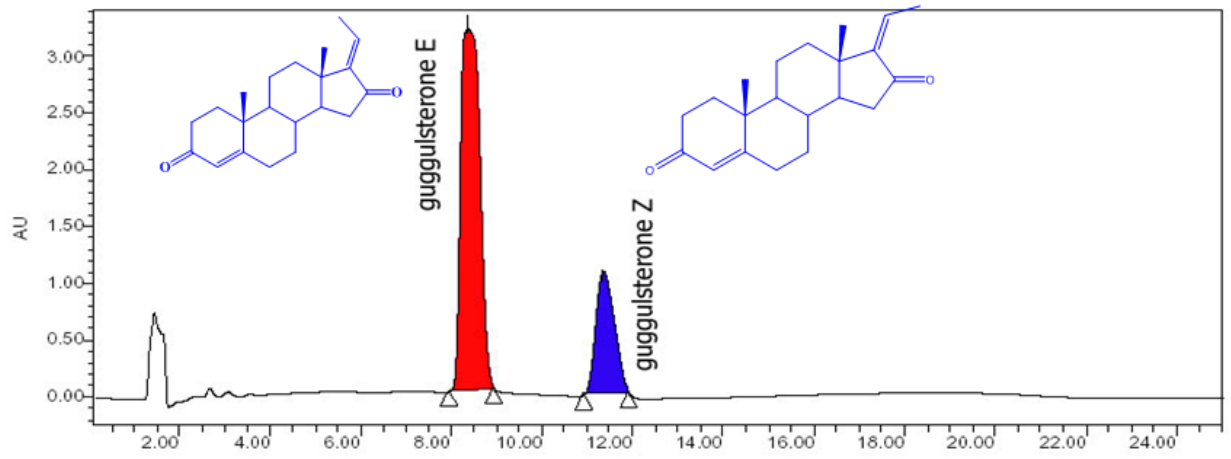
CERTIFICATION

Certificate will be issued to the successful candidates by the competent authority of the institute under CSIR Integrated Skill Initiative.

HPLC-Shimadzu (Prominence)

GC-MS DSQ-II (Thermo Scientific)

HPLC chromatogram showing guggulsterones