

## **CSIR** Integrated Skill Initiative

Developing a cadre of "Quality Analysts' for herbal drug industry

CSIR-National Botanical Reasearch Institute, Lucknow

CSIR-NBRI is a premier plant research centre, having a unique blend of expertise in classical and advanced plant sciences supported with state-of-art laboratories and infrastructures. Since its inception in 1953, CSIR-NBRI has been engaged in basic and applied botanical, horticultural and biotechnological research, providing S&T services in various sectors, spanning from plant resource identification, documentation, and conservation to bio-prospecting through development of new herbal, biotech, microbial and agri-horticultural technologies, products and services for industrial use and societal benefits. CSIR-NBRI has internationally accredited Herbarium and a Botanic Garden, which serve as resource repositories for research, conservation, training and capacity building in botanical and allied disciplines.CSIR-NBRI is one of the NABL accredited laboratories in the area of herbal drug research. The institute has achieved several significant milestones in technologies and floral crafts in recent years.

The majority of world's population rely on herbal medicines for their primary health care needs, especially in the under developed and developing countries. The herbal medicines have reached substantial acceptability as therapeutic agents for several diseases. The shift/drift towards the acceptance of this alternative system of medicine is due to safety value of herbs even in cases of prolonged use also and thus the demand of herbal medicines in market has increased dramatically in recent years. This over increasing demand has lead to shortage of raw material which ultimately results in adulteration or substitution in the herbal drug material(s). Standardization is an important step for the establishment of a consistent pharmacognostical standards, chemical profile and biological activity for maintenance of overall quality of product, right from starting material up to formulation development and batch to batch consistency of the developed products. Development of sophisticated analytical methods which can reliably reproduce/ determine the phytochemical composition, including quantitative analysis of marker/bioactive compounds and other major constituents, is a major boon to scientists engaged in herbal product development. WHO also specifies the guidelines for the assessment of the safety, efficacy and quality of herbal medicines as a prerequisite for global harmonization.

CSIR-NBRI invites applications for the Non-residentialskill development programme ondeveloping "QUALITY ANALYSTS" for herbal drug industry in Swasth Bharat mission.

Title of the course	:	Developing a cadre of "Quality Analysts" for herbal drug industry
Duration	:	Three months
No. of seats	:	20 to 30
Educational qualification	:	Science/Pharmacy/Biotech Graduates
Age group	:	20-35 years
Course fee	:	Rs. 5,000 (Rs. 20,000 for industry sponsored)
Venue of the course	:	CSIR-National Botanical Research Institute, Lucknow

## Date of commencement : SALIENT FEATURES OF THE COURSE

The skilled personal will get opportunity in pharma/health sectors, thus, addressing the issues of employment to undergraduates. Under this programme, hands-on training would be provided in the field of quality evaluation of herbal drugs, more particularly on the following aspects:

- > Standardization and quality control in herbal drugs.
- Physico-chemical analysis of herbal drugs.
- Modern chromatographic technique in herbal drug standardization and quality control.
- > Ayurvedic concepts for development of SOPs of herbal products.
- ➢ Medicinal plants & IPR.

## **EVALUATION OF THE PARTICIPANTS**

The evaluation will consist of the following components:

a. Theory

- Assignments throughout the course	:	20 marks
- Mid- term examination	:	30 marks
- Final examination	:	50 marks

b. Practical

- Guided experiments	:	30 marks
- Unguided experiments	:	70 marks

## **CERTIFICATION**

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

