ACADEMIC SESSION 2019-20

Best Practices of IPSA

Best Practice-I

Title of the practice -- Micro Scale Chemistry lab

Objective

To maintain a pollution free environment and to handle the routine chemical wastes of labs are the matter of serious concern now a day. To address this concern the concept of "Micro Scale Chemistry Lab" was adopted by designing and developing an alternative way of performing chemistry experiments in the laboratory. The technique is known as "Micro Scale Chemistry laboratory Techniques". This technique limits the volume of liquid reagent and the quantity of the solid chemicals used, without compromising on the observation skills, principles involved, accuracy, etc. In addition to this, performing chemistry experiments by this way saves energy required in heating system based on gas burners in traditional laboratories.

Context

A routine "Chemistry Laboratory" has the following drawbacks:

a. Huge amount of chemical waste is generated
b. Increased water and air pollution due to excessive use of chemicals and toxic fumes.
c. Chances of accidents/ spillage of chemicals in laboratory and work station.

The practice

The "Micro Scale Chemistry Laboratory" enables students to perform experiments in an environmentally safe and pollution-free atmosphere, using small quantities of chemicals without compromising with the quality and standard of experiments. The experiments can be performed easily and quickly. They are safer and less polluting. The large size reagent bottles, glassware, plastic ware, etc., in a conventional laboratory are being replaced by their smaller size. In short, this method is cost-effective, student, environment, administrator and teacher-friendly.

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Advantages of Using Micro scale chemistry lab

1. Student-friendly

• The use of chemicals in small quantities reduces fumes and risk of accidents, acid burns, etc.

• The experiments are quick to perform, thus, saving time for performing more experiments.

• It develops the habit of conservation.

2. Environment-friendly

• It reduces use of chemicals resulting in waste reduction at the source.

• It offers vastly enhanced laboratory safety by improving the laboratory air quality through reduction in, exposure to toxic chemicals, fire and explosion hazards, spills and accidents.

3. Administrator-friendly

• It sharply reduces laboratory cost.

• It lowers glass breakage cost.

• It saves storage space.

4. Teacher-friendly

• It promotes better student discipline in the laboratory.

• It is pedagogically sound. Teachers can ask the students to do more experiments during the saved time to help in better conceptual understanding.

Evidence of the success

- Plan experiments using Micro scale laboratory techniques and introduced them along with practical scheduled in syllabus.
- Quantity of chemicals reduce to half as compared to conventional method.

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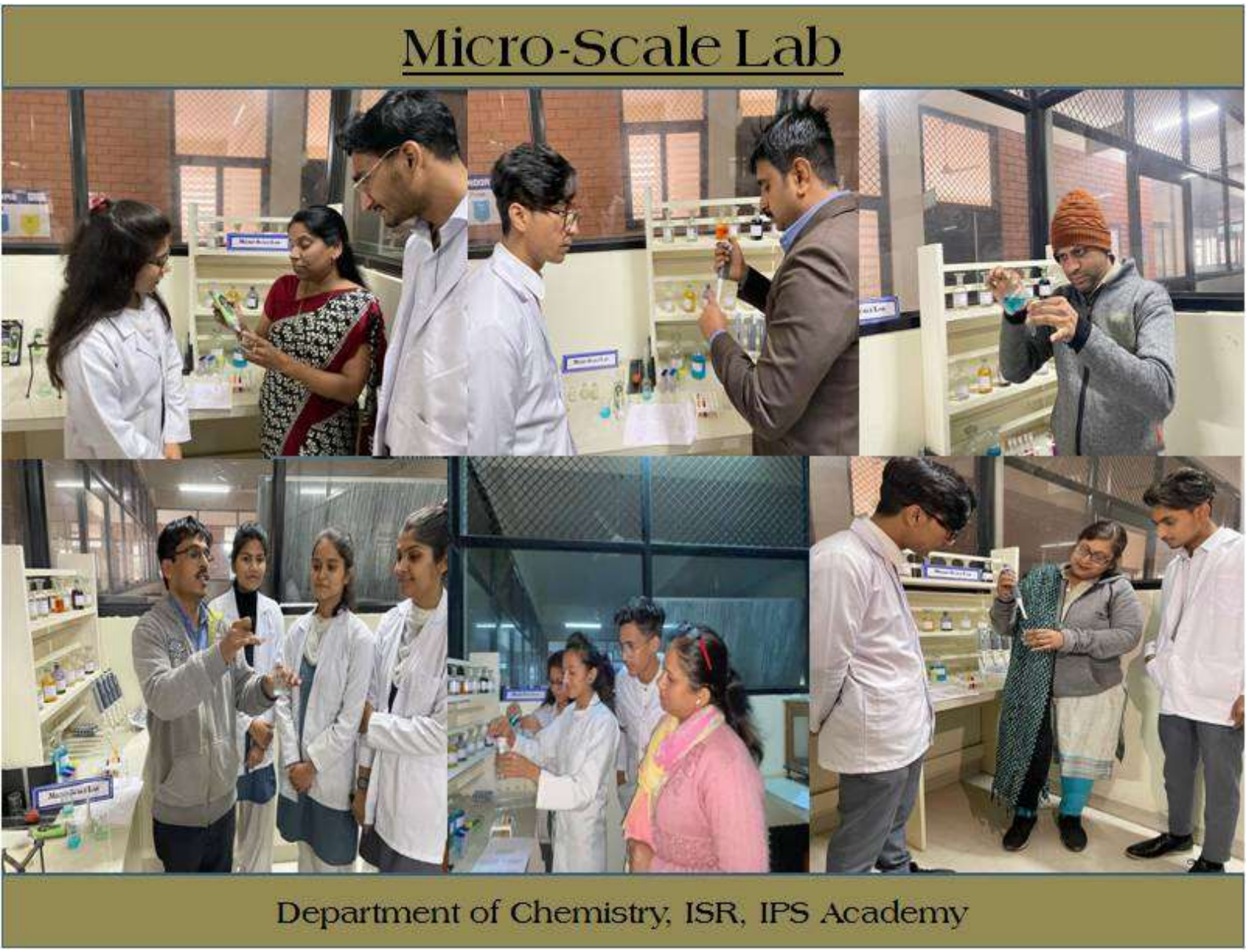
Some Photographs of Micro-scale Chemistry Lab



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Best Practice-II

Title of the practice: Feedback Mechanism

Goals:

- To collect the Feedback from Academic Peers, Employers, Alumni and Community on the Courses offered, Curriculum offered, Teaching and Learning Process, Infrastructural Facilities, Learning Resources, Extracurricular Activities etc., and to use the outcome in strengthening the Institution in Teaching-Learning and other activities to meet the growing demands of the Global market.

Context

- The primary objective of the institution is to train its students with strong analytical skills, language skills, employability skills and life skills with a deep sense of social consciousness and awareness. Skill-based activities are playing significant role in the recent years in the development of any institute offering higher education. To know the strengths and weaknesses of the institute and to incorporate the needy mechanisms and technologies to meet the growing requirements , Institution introduced the feedback mechanism. Basing on the outcome given in feedback, Institution introduced new innovative teaching and evaluation methods.

Practice

- Feedback from Academic Peers, Employers, Alumni and Community is collected in the prescribed format prepared by the institute and the feedback reports obtained are quantified and analyzed. The outcome is discussed by the Staff Council and IQAC and new mechanisms and procedures to be incorporated in the existing system are finalized. The same will be introduced in the future academic plan of the institute.

Evidence of success

- Basing on the Feedback reports, additional courses on Communication Skills and Other Employability Skills are taught to the students. Guest Lectures on various subjects are arranged by inviting well experienced teaching faculty from external Institutions. Remedial Coaching Classes are conducted to academically backward students.
- By organizing all the above activities in a systematic manner, Institution has witnessed very fruitful and successful achievements on behalf of the students. Candidates are selected for management trainee, managers, research assistants, software developers, technicians and supporting staff in nearby located Industries and out of the state 10% students are progressing to Post Graduate and Research studies. Good number of students is settled as Software Engineers in India and Abroad.

Problems encountered and Resources required

- Since the Institution is located in a rural remote corner, bringing the Resource Persons to organize skill oriented programmes and providing the required ICT equipment is an expensive task. The Management of the Institution is kind enough to provide the conveyance and comfortable stay within the campus to the External Resource Persons in addition to providing all the ICT equipment.

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