BITS PILANI, DUBAI CAMPUS

PRACTICE SCHOOL PROGRAM

LINKS

THEORY
LEARNT IN

CLASS ROOM

PRACTICE
IN THE

INDUSTRY

WITH

Theme of Practice School (PS)

Practice School is an educational innovation seeking to link industry experience with university instruction. The objectives of PS are to (i) meet the rapidly changing needs and challenges of a professional workplace, (ii) enable students to acquire learning by applying the knowledge and skills they possess, in unfamiliar, open-ended real life situations, and (iii) bear an economic relevance to society. These objectives are achieved by bringing the reality of the world of work into the process of education. PS creates the required setting for experiential and cooperative learning and education, by providing students with an opportunity to work on relevant assignments, under the guidance of professional experts and under the supervision of faculty. Consequently, Practice School serves as a platform that facilitates and promotes partnership and intellectual exchange between academia and industry.

Beginning of PS

Birla Institute of Technology & Science, Pilani introduced the PS programme in 1973 for all disciplines across the Institute. Though PS programme began in 1973 with merely 12 students and 4 faculty members at HINDALCO, Renukoot, it has been growing at a steady rate since then.

Salient Features

    Institutionalized linkage between University and Industry

    Applicable to all degree programs

    Integral part of the curriculum

    Student involvement in real-life projects

    Continuous Internal Evaluation system

    Monitoring and evaluation by resident faculty member

Programme Structure

Single Degree

    It is notionally of four years duration, with the input being 10+2 pass students who have qualified for admission.

The first year is devoted to establishing a strong foundation in Mathematics, Sciences and Basic Engineering (Electrical, Electronics Engineering, Computer Programming, Workshop), TechnicalArts such as Report Writing.

The Disciplinary Core courses starts in the second year itself. Along with Disciplinary Corecourses, Mathematics Foundation and General Awareness courses (Principles of Management/ Economics) and some Humanities electives are done by a student. Practice School-I is conducted during the summer following the second year.

The third year is spent studying Specialized Discipline Courses and various other Analysis and Application Oriented Courses. By the end of the third year, the student would have completed all the named (compulsory) courses of the degree program.

In the final year, the student spends one semester doing elective courses and the other doing Practice School-II.

As mentioned earlier, Practice School is optional. A student may even opt for Thesis. Such a student will carry out the Thesis work under the supervision of a faculty member at BITS/other prominent national/international research centers in place of Practice School-II.

Dual Degree

    A student may be admitted to the Composite Dual Degree Program under which the student simultaneously pursues two degrees.

Practice School-I appears in the chart at the end of two years in this program. Such a student may opt for PS-II to satisfy the requirements for both the degrees, which will be done in the last two semesters of the program.

Higher Degree

The program is of two years duration.

The first three semesters are spent on course work while the last semester is devoted either to Practice School or Dissertation.

The details of the structure of Integrated First Degree Program with Practice School option is shown in the flow chart below.

The Structure of Integrated First Degree Programme
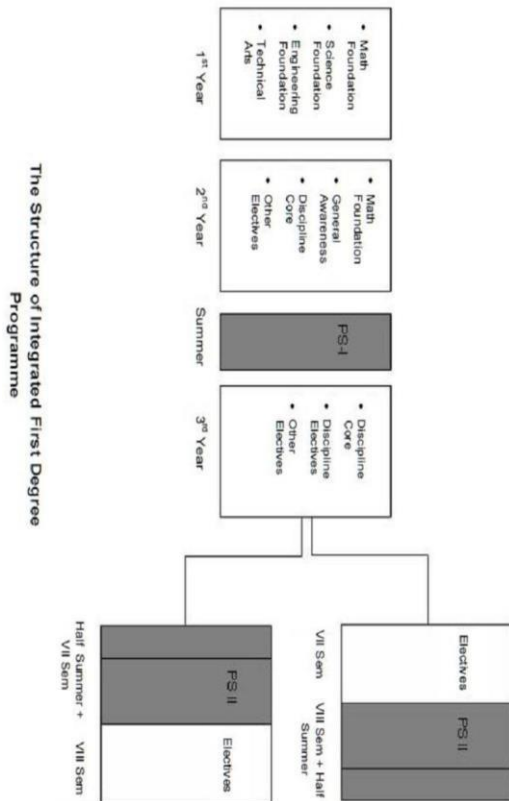
Practice School-I (PS-I)

Concept

Practice School-I (PS-I) is of eight weeks duration. It is offered during the summer after the students have completed two years of course work. PS-I is primarily exposure-oriented program which is graded for five units as it is an integral part of the curriculum.

Aim

PS-I provides a comprehensive first exposure to professional workplace, to learn organization structure and function, to develop personality traits, and to enhance communication and presentation (oral and written) skills.
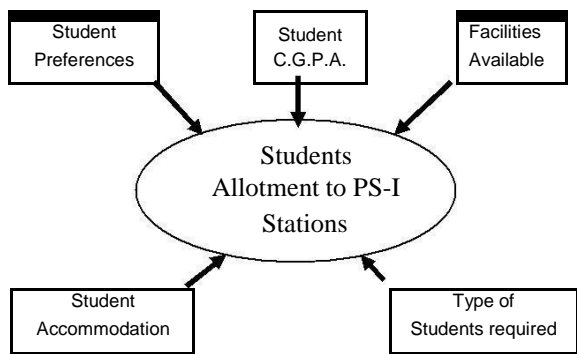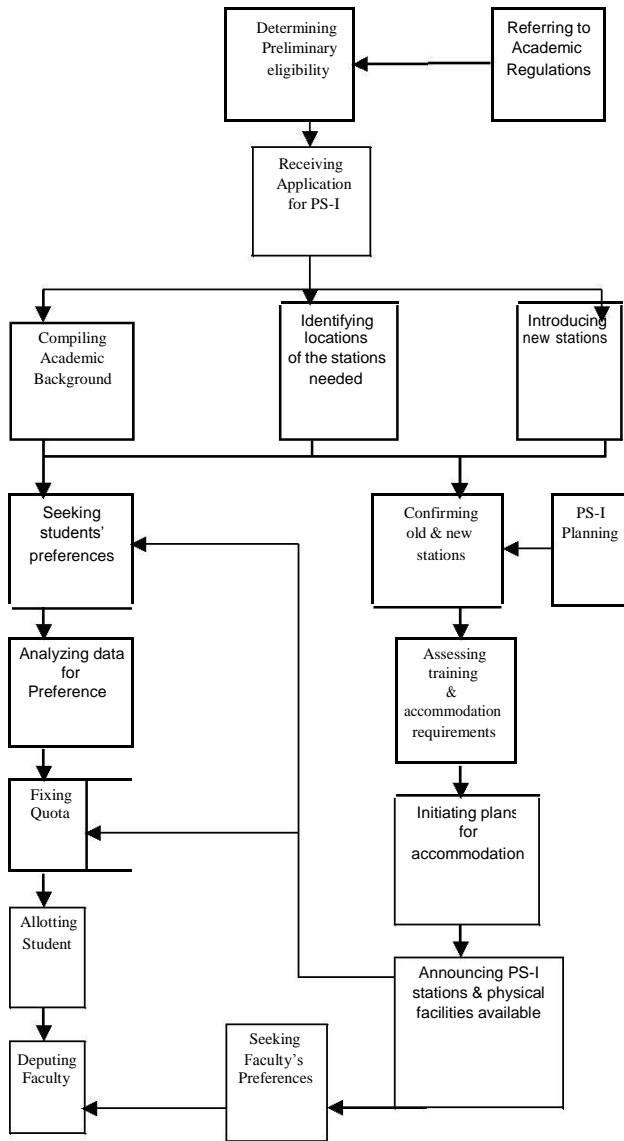
Methodology

Orientation (up to four weeks) comprises plant visits and interaction with executives to facilitate the process of learning by observation and discussion, duly aided by the Checklist (an exhaustive list of queries about different aspects of an organization). Projects (often study type, involving collecting data, organizing, analyzing, and presenting data/information) are assigned to promote learning by doing. Components of evaluation include Diary, Quiz, Group Discussion and Presentation to develop regularity, group learning, and communication skills.

Planning Process

The process begins almost one year before the beginning of PS-I. The various steps include (i) deciding the list of eligible students, (ii) carrying out a demographic analysis to establish region wise targets for the number of stations and seats, (iii) confirming the continuation of existing stations and initiating new stations, and (iv) deciding about the faculty and student co-instructor needs.

Allotment Process

The list of stations, along with the facilities provided is announced to the students. The students then submit their preference order for the stations, along with information on their accommodation status at the various locations. The allotment is carried out on the basis of the CGPA of the students, keeping their preferences along with any particular requirements specified by the organizations.

The planning and allotment processes are shown in the flow chart below:

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                    ┌──────────────┐        ┌──────────────┐
                    │ Determining  │        │ Referring to │
                    │ Preliminary  │◄───────│  Academic    │
                    │  eligibility │        │ Regulations  │
                    └──────┬───────┘        └──────────────┘
                           │
                    ┌──────▼───────┐
                    │  Receiving   │
                    │ Application  │
                    │   for PS-I   │
                    └──────┬───────┘
                           │
        ┌──────────────────┼──────────────────┐
        │                  │                  │
 ┌──────▼──────┐   ┌───────▼───────┐   ┌──────▼──────┐
 │  Compiling  │   │  Identifying  │   │ Introducing │
 │  Academic   │   │   locations   │   │ new stations│
 │ Background  │   │ of the stations│  │             │
 │             │   │    needed     │   │             │
 └──────┬──────┘   └───────┬───────┘   └─────────────┘
        │                  │
 ┌──────▼──────┐   ┌───────▼───────┐   ┌──────────────┐
 │   Seeking   │◄─┐│  Confirming   │   │    PS-I      │
 │  students'  │  ││  old & new    │◄──│  Planning    │
 │ preferences │  ││   stations    │   │              │
 └──────┬──────┘  │└───────┬───────┘   └──────────────┘
        │         │        │
 ┌──────▼──────┐  │┌───────▼───────┐
 │ Analyzing   │  ││  Assessing    │
 │  data for   │  ││   training    │
 │ Preference  │  ││      &        │
 │             │  ││ accommodation │
 └──────┬──────┘  ││ requirements  │
        │         │└───────┬───────┘
 ┌──────▼──────┐  │┌───────▼───────┐
 │   Fixing    │◄─┤│ Initiating    │
 │   Quota     │  ││   plans for   │
 │             │  ││ accommodation │
 └──────┬──────┘  │└───────┬───────┘
        │         │        │
 ┌──────▼──────┐  │┌───────▼───────┐
 │  Allotting  │  ││ Announcing PS-I│
 │  Student    │  ││ stations &    │
 │             │  ││ physical      │
 └──────┬──────┘  ││ facilities    │
        │         ││ available     │
 ┌──────▼──────┐ ┌▼──────┐└───────┬──┘
 │  Deputing   │◄│Seeking│◄───────┘
 │  Faculty    │ │Faculty's│
 │             │ │Preferences│
 └─────────────┘ └─────────┘
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PS-I Allotment Process

Practice School-II (PS-II)

Concept

Practice School-II, of five and a half months duration, carrying twenty units credit, is operated round the year, from August to January and January to July. This facilitates a continuous stream of well-prepared students to work on developmental projects in industry.

Since the students participate in and contribute to live projects, many PS stations come forward to support the students by paying a stipend and/or travel reimbursement, etc.

Aim

PS-II is directed towards providing an opportunity to students to experience the world of work, by participating in live projects in industry, even before they graduate. Apart from the academic benefits, this also serves to hone their problem solving skills, and build team spirit, initiative, and leadership skills, which makes the eventual transition to the professional world smoother and better.

Methodology

After a brief orientation, the students are involved directly in addressing the predefined problems (generally of multidisciplinary nature) of the host organization. The students are encouraged to work independently, under the technical guidance of a professional expert and the general guidance of the faculty. They are periodically required to defend the technical aspects of their work through written and oral presentations. Emphasis is laid on the importance of teamwork, development of leadership qualities, and the need for effective time management.

Planning Process

The first step in the planning process is to prepare the list of students who are to register in PS-II in each of the two sessions of the subsequent academic year. Interested dual degree students are likely to be permitted to pursue two
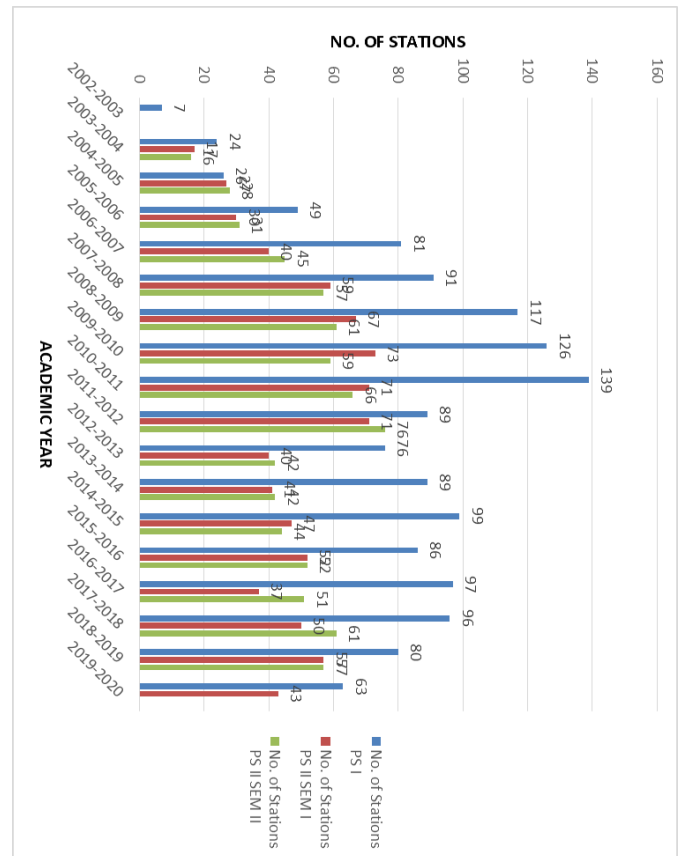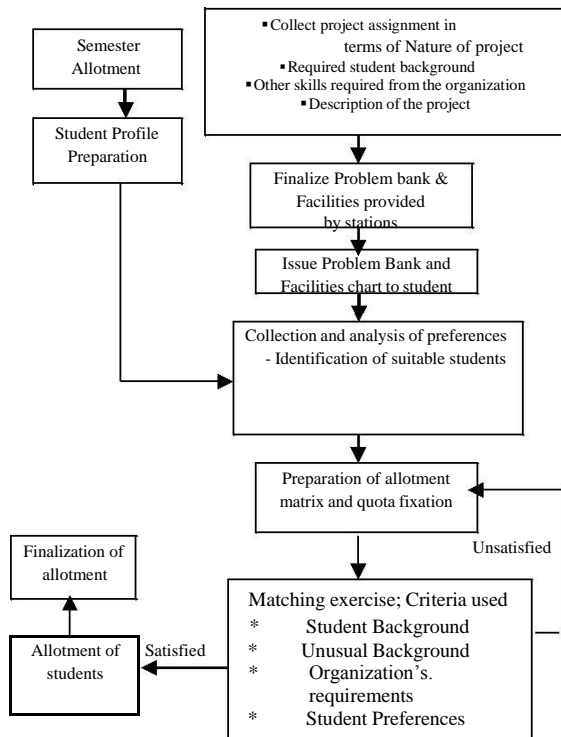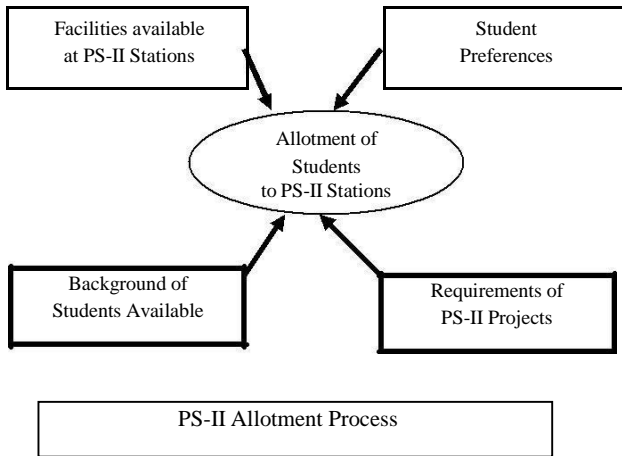
semesters of PS-II. Higher Degree student may pursue PS in place of Dissertation. The next step is to ensure that an adequate number of suitable projects are available from the various organizations (existing and new) to comfortably accommodate all the students. Another task is to prepare a profile of each student, containing personal data, academic credentials, skills, extra-curricular interests, etc. The flow chart below outlines the planning process.

PS-II Planning Process
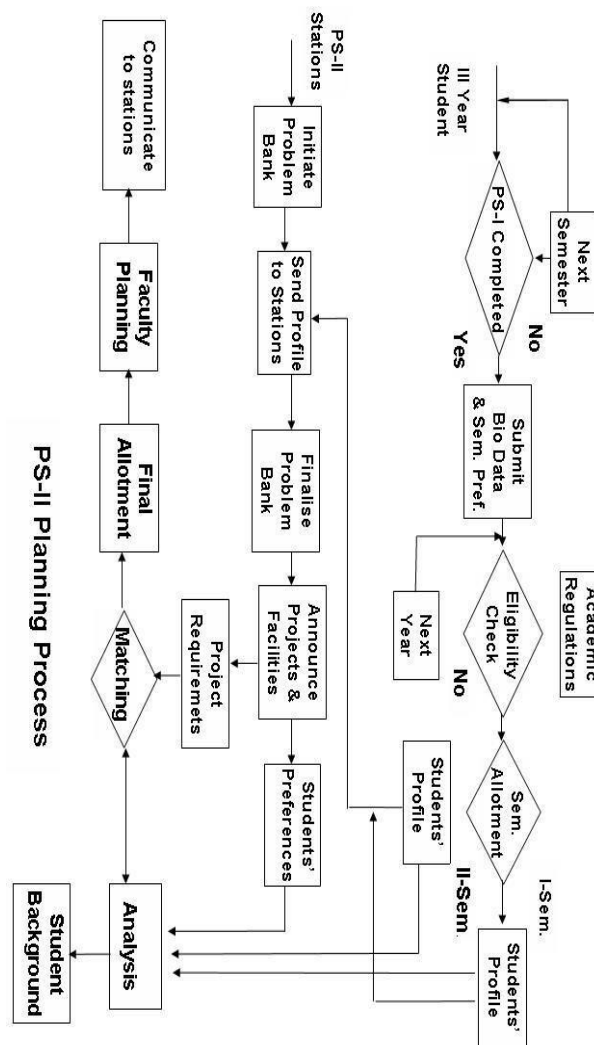
Allotment Process

The Problem Bank is a list of assignments from the various organizations, with details of skills and knowledge required. Facility Chart contains the details of stipend and other support provided by the organizations.

These details are made available to the students. Based on this information, the students submit their preferences for the various projects and organizations. The allotment of students is done by matching the project requirements with students' profiles, keeping the preferences and the merit of the students in view. The details of the allotment process are given below (chart).

PS-II Allotment Process

Facilities available at PS-II Stations

Student Preferences

Allotment of Students to PS-II Stations

Background of Students Available

Requirements of PS-II Projects

Semester Allotment

Student Profile Preparation

Collect project assignment in terms of Nature of project
Required student background
Other skills required from the organization
Description of the project

Finalize Problem bank & Facilities provided by stations

Issue Problem Bank and Facilities chart to student

Collection and analysis of preferences - Identification of suitable students

Preparation of allotment matrix and quota fixation

Unsatisfied

Finalization of allotment

Matching exercise; Criteria used
*   Student Background
*   Unusual Background
*   Organization's. requirements
*   Student Preferences

Satisfied

Allotment of students

Growth of PS Stations

Role of PS-II Faculty

Act as interface between the Institute and PS Station.

Generate problem bank for subsequent semester in consultation with organization coordinator.

Ensure smooth operation by being in constant touch with the students, project mentors, and coordinator.

Monitor, evaluate, and grade the performance of students.

Initiate PS activity in new organizations.

Role of Professional Experts

Identify suitable assignments for the students.

Provide necessary technical guidance in the execution of the projects.

Participate in the evaluation of components such as seminar, project reports, and provide inputs to the PS faculty.

Demands of PS

Enthusiastic, sincere, motivated, and industrious students, with eagerness to learn.

Cooperation from Industry.

Additional infrastructure outside the campuses.

Efficient communication network and information processing systems.

Committed and dedicated faculty.

Benefits of PS

The success of the PS system is due to the cooperation from industry, the excellence of the students, and the commitment of the Institute and its faculty, with each of the stakeholders also deriving benefits, in addition to the shared expertise, and the participation of industry in the process of university education.

Benefits to Students

Learning by doing.

All round development.

Aid in career planning.

Experience of professional working conditions.

Smooth transition from campus to industry.

Benefits to Industry

Steady stream of skilled manpower provides valueaddition and increased productivity.

Human Resource Development benefits.

Conduit for Industrial Partnership.

Employer Branding.

Access to expertise from academia.

Benefits to the University

- Inputs to quickly adapt curriculum to match the needs of industry.

- Faculty development.

- Opportunities for research and consultancy.

- Access to industrial expertise and infrastructure.

- Collaborative research with the industry

- Benchmark Curriculum with the current industry standards

- Industry ready graduates

Success Indicators

- Sustained and increasing demand from industry.

- Increasing stipends to students.

- Length of survival of stations.

- Interest of other Institutions in initiating similar programs.