

The President of India, Shri Fakhruddin Ali Ahmed, presenting National Safety and Shram Vir Awards.



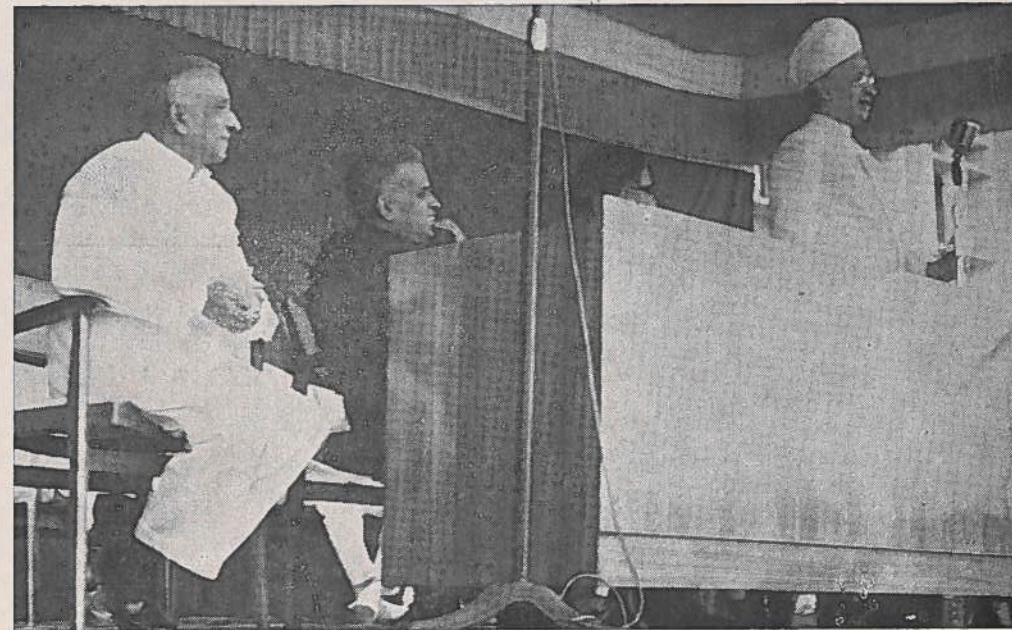
CENTRAL
LABOUR
INSTITUTE

BOMBAY





Late Prime Minister Jawaharlal Nehru laying the foundation stone for the Institute building



The Institute being inaugurated by the then President Dr. S. Radhakrishnan

CENTRAL LABOUR INSTITUTE

The Central Labour Institute at Sion, Bombay is one of the four Labour Institutes in the country under the Directorate General of Factory Advice Service & Labour Institutes (DGFASLI).

The Institute was established during the first five year plan to function as a socio-economic laboratory and a national institute dealing with the scientific study of all aspects of industrial development as relating to human factor.

The Institute's objective is to promote safe and healthy working conditions in the factories and docks and thereby assist in the achievement of improved work environment, better motivation, higher productivity, etc. The Institute is thus concerned with humanisation of work and improving the quality of working life.

The Institute consists of four wings viz. Safety, Research, Training, and Ergonomics under which ten divisions are grouped as follows :

1. Safety Wing
 - i) Industrial Safety, Health & Welfare Centre
 - ii) Training & Services Centre
 - iii) Library-cum-information Service.
2. Research Wing
 - iv) Industrial Hygiene Laboratory
 - v) Industrial Medicine Division
 - vi) Industrial Physiology Division
3. Training Wing
 - vii) Productivity Centre
 - viii) Staff Training Centre
 - ix) Industrial Psychology Division
4. Ergonomics
Ergonomics Laboratory

TRAINING PROGRAMMES OFFERED

One of the main activities of the Institute is to offer training programmes in various specialised areas. The unique feature of the Institute is the multi-disciplinary approach to problems. Services of highly qualified and experienced engineers, doctors, chemists, physiologists and psychologists all under one roof are available for conducting training programmes and carrying out projects.

Training programmes are arranged in English, Hindi or regional languages as required.

The Institute also offers training in the various disciplines for overseas trainees.

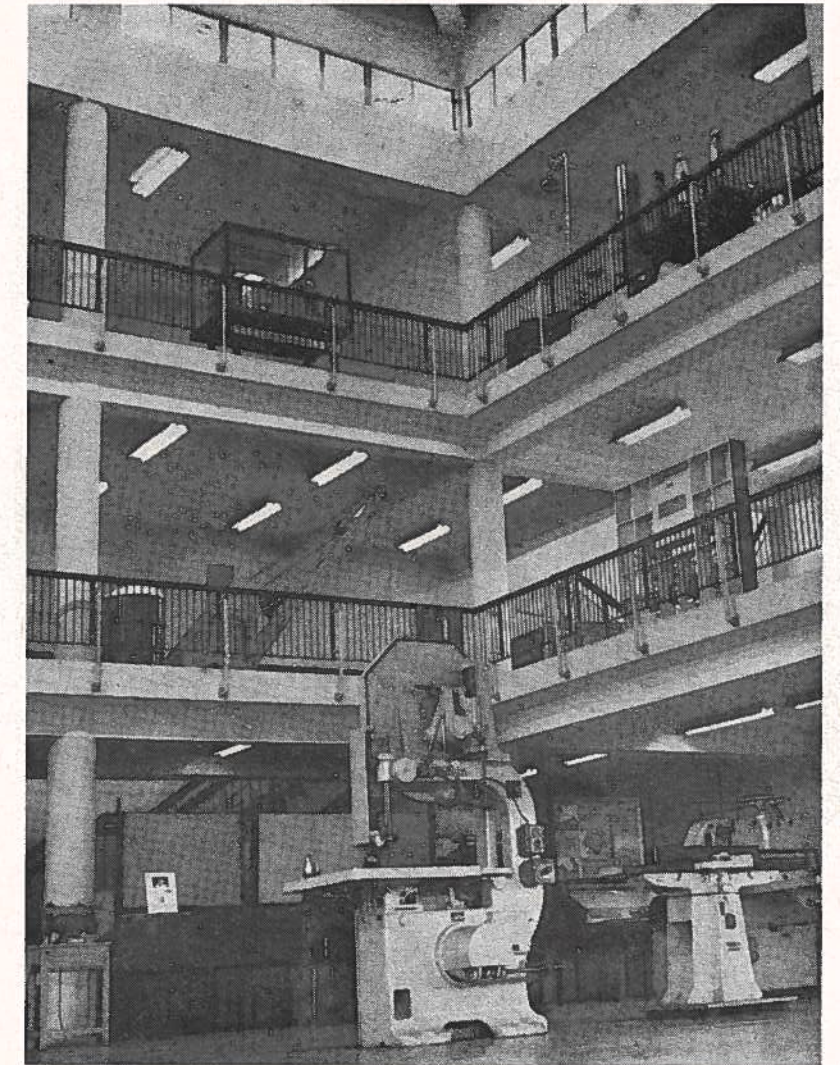
SAFETY WING

The functions of the Safety Wing are :

1. to educate managements, employees, trade union leaders and others on industrial safety and occupational health for prevention of accidents and safeguarding the health of workers in factories and on the means of achieving good working conditions.
2. to provide authentic and up-to-date information and technical advice on various aspects relating to industrial safety.
3. to prepare training aids such as slides, film strips, films, posters, safety graphs, booklets, etc. for safety education.
4. to promote and propagate improvements for prevention of accidents and ill-health.
5. to undertake comprehensive survey in high-accident-rate industries and provide know-how and guidance for safety.
6. to carry out research in relation to prevention of accidents and injury to health in industrial operations and improvement of working conditions.

INDUSTRIAL SAFETY, HEALTH & WELFARE CENTRE

The Safety Wing maintains a display centre to demonstrate methods, arrangements and appliances for promoting safety and health of workers, as well as for providing good working



A View of the Safety Centre

conditions. It illustrates the dangers to life, limb and health incidental to industrial processes and demonstrates the most effective methods of safeguarding against such hazards. The exhibits cover a wide range of such practices and methods in different industries. The Centre has a Section devoted to safety in Docks. The exhibition is open to the public.

MOBILE SAFETY EXHIBITION

An extension of the permanent exhibition is a Mobile Safety Exhibition for carrying the message to the doorsteps of factories. The Mobile Exhibition, the first of its kind in Asia, highlights the hazards in industrial processes and demonstrates the safeguards which should be followed to prevent industrial accidents. The exhibition is equipped with a daylight film projection system.

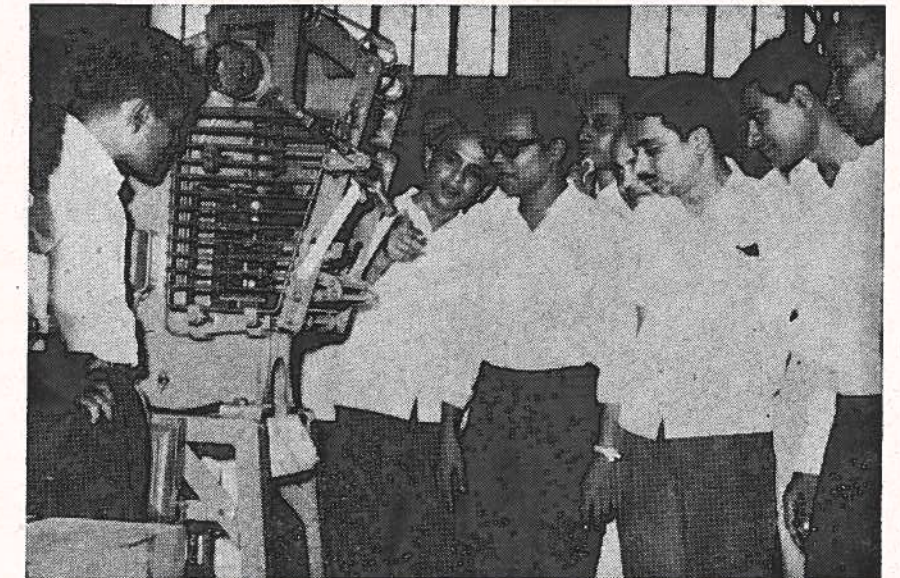


Mobile Safety Exhibition

TRAINING & SERVICES CENTRE

The Centre is equipped with modern audiovisual aids for training and is staffed by experts in the field of industrial safety. It organises a variety of training and education programmes on industrial safety. Some of the programmes offered by the Safety Wing are :

1. Course for Senior management personnel
2. Courses for middle management personnel
3. In-plant programmes
4. Courses on specific safety subjects
5. Course for workers in regional languages
6. Diploma Course on Industrial Safety (one year).



Salient features of the guard being explained during a safety training programme

LIBRARY-CUM-INFORMATION SERVICE

The Centre maintains an up-to-date library of 16,000 volumes of books and 200 journals on the various subjects related to the disciplines dealt with by the Institute. It provides an integrated information service, the requests for information received by the centre being processed with the assistance of specialists of the different disciplines.

RESEARCH WING

The insidious effects of air contaminants and the stress caused by heat, noise, vibration, etc. on the health of the workers are increasingly being recognised by industry and Government. Of late, managements have shown themselves to be anxious to improve the environmental conditions inside factories.

The Research Wing is principally responsible for assessing the environmental and occupational health hazard potential in various industries. Long term multidisciplinary research projects are undertaken to assess the effects of environmental stress/conditions on the health of workers in various industries.



Air Sampling in an industrial working environment using Midget Impinger

INDUSTRIAL HYGIENE LABORATORY

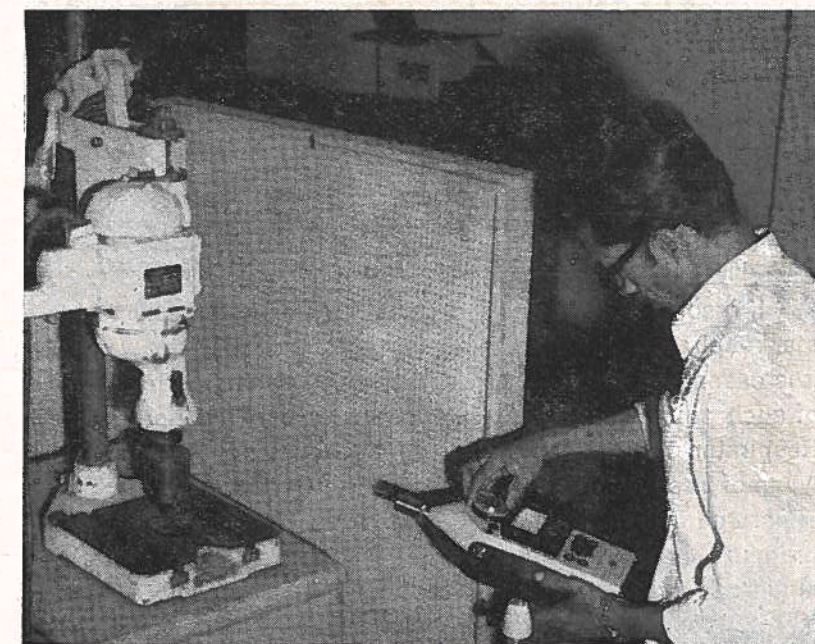
The work environment gets contaminated with toxic and hazardous materials because of the various processes carried out in the industry. The evaluation of the degree of

contamination is essential for identifying potential problem areas for providing technical control measures as well as for evaluation of performance of existing control measures.

The Industrial Hygiene Laboratory which is well-equipped with trained personnel and modern equipments for environmental monitoring, carries out industrial hygiene studies. Analysis of biological samples from workers exposed to toxic chemicals is also undertaken for ascertaining the severity of exposure/indicator of early exposure. Developmental work in the field of analytical methods is also undertaken.

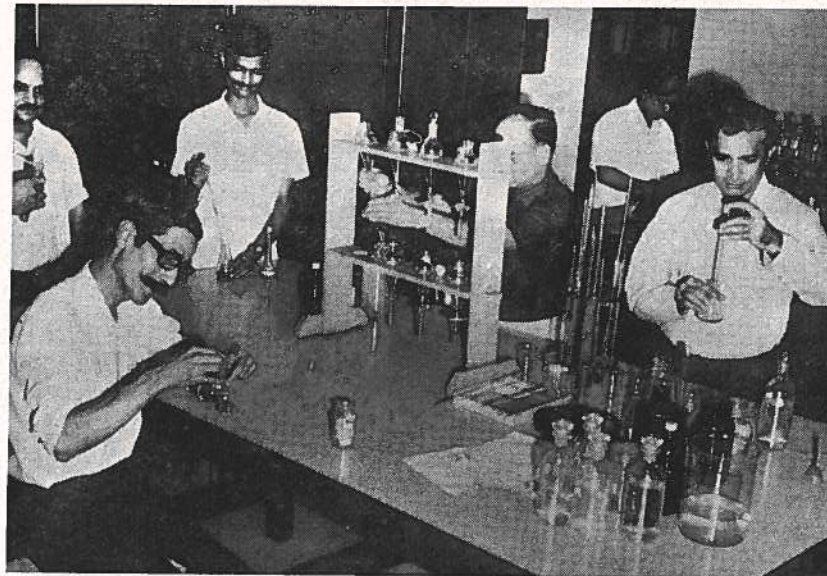
Industrial Hygiene Laboratory in collaboration with Safety and other departments of the Institute provides the following services :

i) conduction environmental studies to assess the levels of harmful agents such as air contaminants, heat and noise in the work environment.



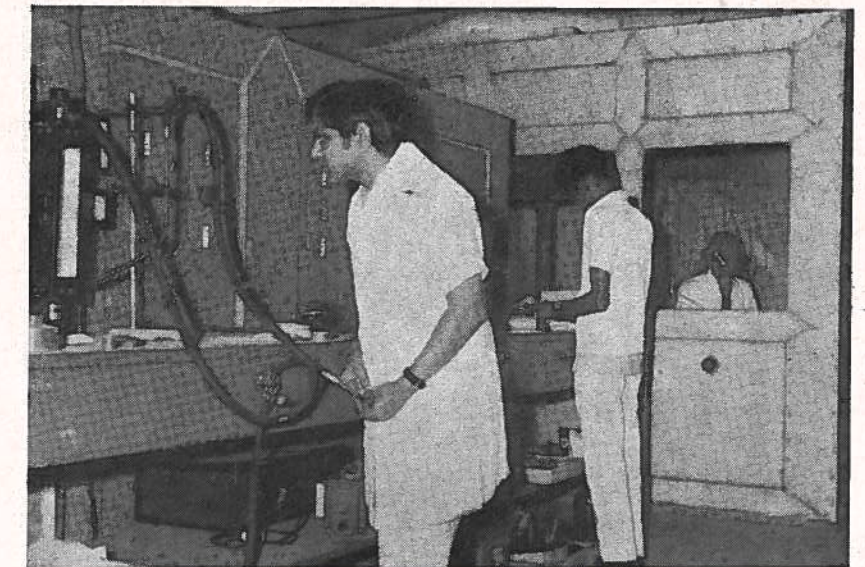
Noise level assessment in a workshop

- ii) undertaking appraisals of ventilation systems.
- iii) advising on the methods of control for improving the environment.
- iv) providing training to managers, designers, plant engineers, etc. to educate them on the ill-effects of these environmental factors and on the methods and techniques of improving the environment.



Trainees of Industrial Hygiene Workshop analysing air samples

If respiratory protective devices such as gas masks, canister respirators have to give adequate protection to the wearer, it is essential to ascertain whether the quality and performance of such equipments conform to standard specifications. The Respirator Testing Laboratory undertakes testing of different types of respirators, gas masks and supplied air breathing apparatus manufactured indigenously and advises the entrepreneurs on the lines on which their products should be modified and improved to meet basic performance requirements. Research and development work for development of suitable raw materials for use in such equipments is also undertaken for helping the indigenous manufacturers.



Testing respirator and gas mask in a simulated environment

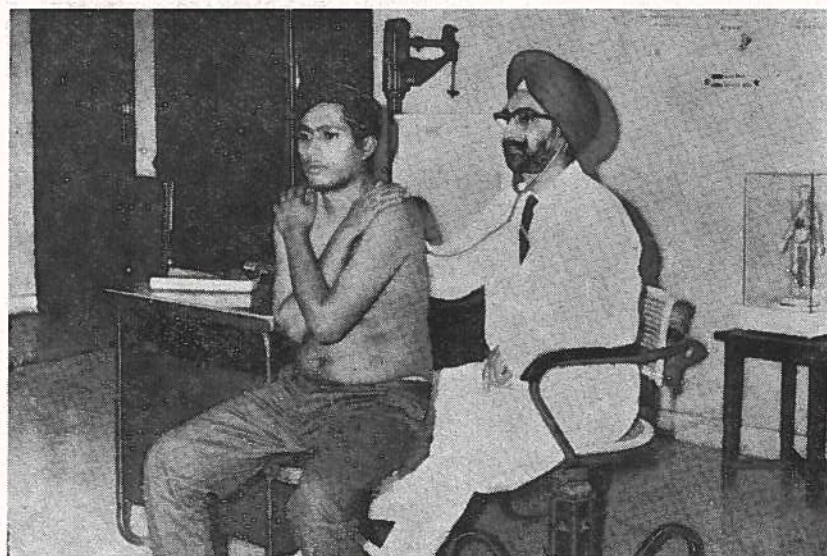
INDUSTRIAL MEDICINE DIVISION

Exposure to adverse environmental conditions can affect health and well-being of the workers. To ensure that the health is not affected requires periodic medical examination keeping in view the nature of environmental factors. The Industrial Medicine Division carries out studies for assessment of occupational health status of workers exposed to physical, chemical and biological hazards in various types of industries and renders advice to those concerned about the measures to be taken for health protection.

The Division also conducts Refresher Training courses in Occupational Health for the benefit of Medical Officers.

INDUSTRIAL PHYSIOLOGY DIVISION

Efficiency and productivity of industrial workers are influenced by the extent of fatigue due to exposure to various environmental stress factors on the shop floor as well as the physical workload. A proper evaluation of the extent of physiological responses due to exposure to these factors will

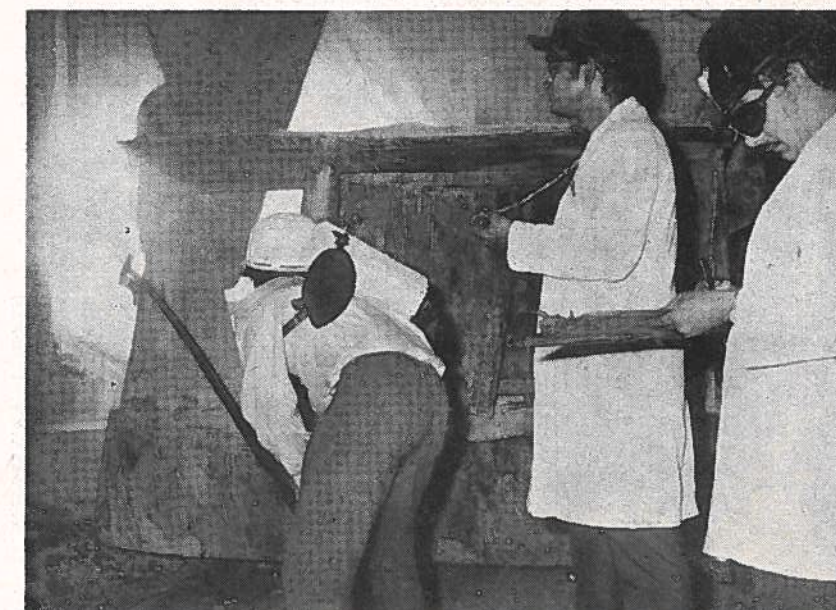


Medical examination of a worker during occupational health investigations

facilitate devising the optimal conditions of work. Evaluation of the physiological cost of the different types of jobs on the shop floor will help in working out a proper system of work and rest schedule so that at the end of the shift fatigue will be minimal.

The Division carries out research in Occupational Physiology as outlined below :

- (i) **Work Physiology :** Physical work and its effects on man; evaluation of jobs; assessment of physical fitness of industrial workers; selection of workers from the physiological point of view; permissible limits for continuous work; optimum duration of work cycles and rest pauses, etc.
- (ii) **Environmental Physiology :** Effects of heat, humidity and related environmental stresses in industry; thermal limits for day-to-day industrial work.
- (iii) **Respiratory Physiology :** Effects of dust, fumes and toxic gases on the pulmonary functions of the industrial workers.



Work Scientists taking physiological measurements of fettling operation in a steel melting shop.

The Division also conducts specialised training programmes on various aspects such as Industrial Fatigue, Rest Pauses etc.

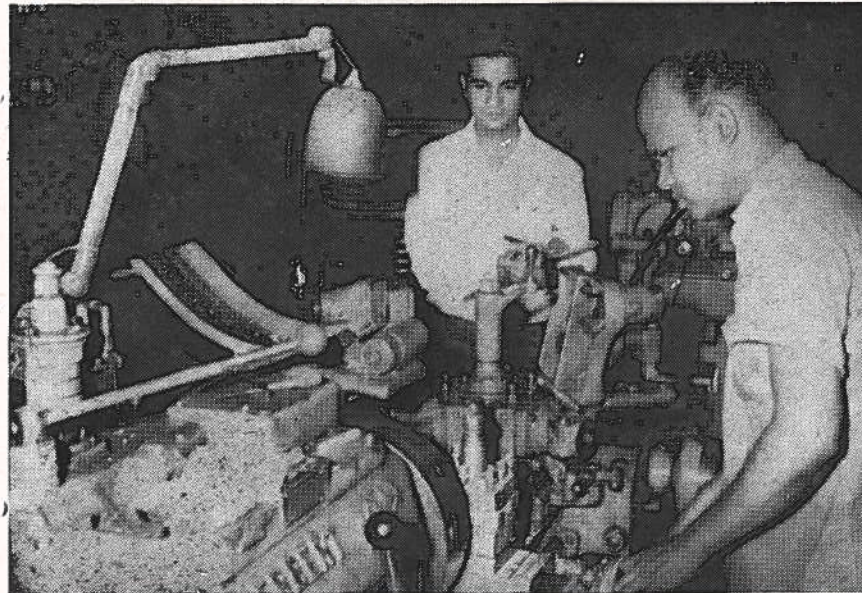
TRAINING WING

PRODUCTIVITY CENTRE

The Centre is engaged in conducting training programmes for technical personnel at various levels in the field of Industrial Engineering and other related productivity techniques. The Centre also undertakes field projects and investigations in various areas such as Job Evaluation, Incentive Schemes, Improvement of Layouts, Resource & Capacity Utilisation etc. Through this, the Centre attempts to raise the productivity of the units as well as the workers' earnings and also improve conditions of work.

The programmes offered by the Centre are :

1. Materials Management
2. Work Study & Incentives
3. Wage & Salary Administration
4. Job Evaluation
5. PERT
6. Preventive Maintenance



Study of a job

STAFF TRAINING CENTRE

The Centre offers guidance and assistance on all aspects of staff training in industry. Its special bias is on supervisory development and modern methods of training.

Training Programmes for Trainers :

1. Comprehensive Supervisory Trainer's Project.
2. Organisation & Administration of Training.
3. Job Safety Institute for Safety Officers
4. Office Supervision for Administrative Trainer



Management programme in action

Training Programmes for Management :

1. Managerial Excellence
2. Result Oriented Leadership
3. Human Problems at Work
4. Communication and Human Relations
5. Conference Leading
6. Communication Skill Development.

Training Programmes for Supervisors :

1. Shop-floor Management for Results
2. Basic Principles of Supervision

Training Programmes for Trade Union Leaders :

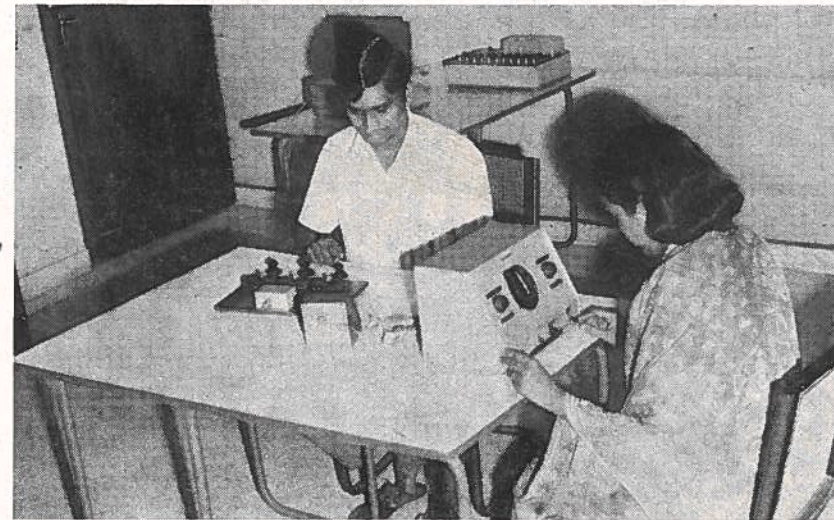
1. Personal Growth & Group Dynamics

INDUSTRIAL PSYCHOLOGY DIVISION

The process of industrial development and social changes invariably creates human problems in industries. Industrial Psychology Division is concerned with monitoring the quality of working life through research, training and consultancy

activities in the areas of employees' attitudes, aspirations, values and their adjustment to and satisfaction in work organisation. The major areas of coverage are :

1. Studies on organisation climate, work organisation, management system, etc.
2. Personnel selection, appraisal and counselling.
3. Attitude surveys, Job satisfaction, and Job enrichment.
4. Studying the causes of lost time, viz. accidents, absenteeism etc.
5. Experimental interdisciplinary studies on the psychic effect of working condition and environmental hazards.
6. Specific training programmes in human relation areas viz. Transactional Analysis, Sensitivity training, Counselling, etc.



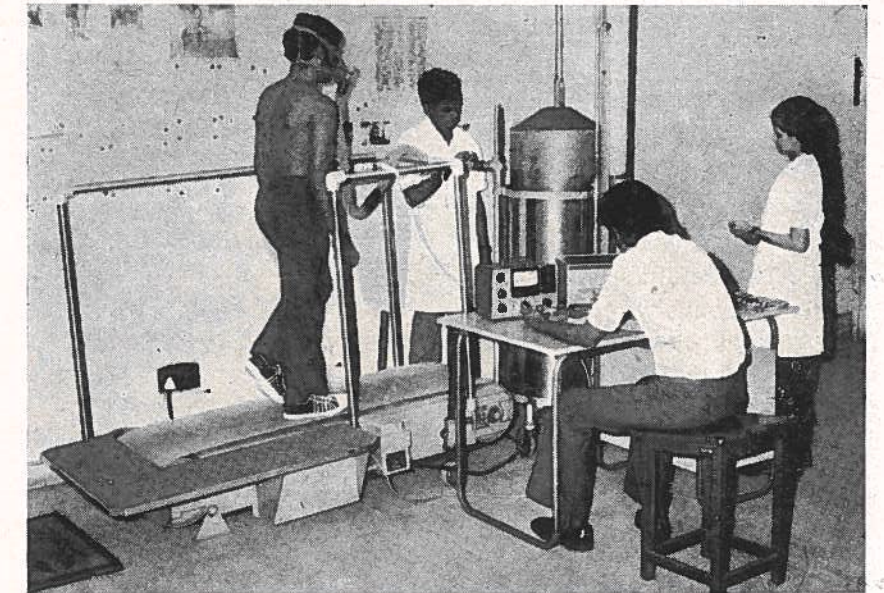
Psychological reactions being studied

ERGONOMICS

ERGONOMICS LABORATORY

Highly complex manufacturing processes, plant and equipment and high speeds of working are characteristic of industry today. Trying to adapt to the demands of such an industrial environment having improperly adjusted man-machine interfaces, could create considerable stress in the worker leading to loss of efficiency, accidents and impaired health.

Human factors engineering (Ergonomics) enables us, among other things, to study man-machine systems with a view to matching the machine and the environments to the man or making the best mutual adjustment between them.



Tread mill experiment for determination of optimum work rate

The Ergonomics Laboratory is equipped to :

1. carry out research to make the best adjustment between man and machine.

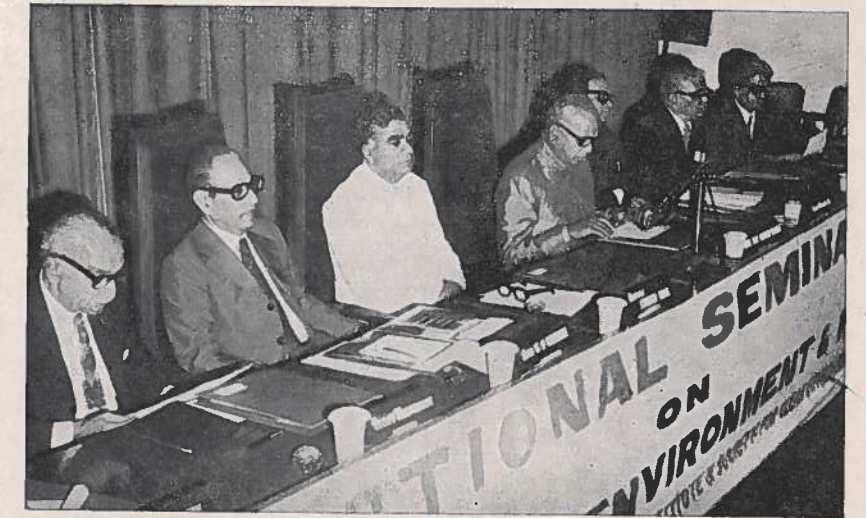
2. educate manufacturers of plant, machinery and equipment in applying the ergonomics approach.
3. provide a consultancy service to industry to rectify unsatisfactory situations.
4. establish anthropometric data relating to industrial employees of different regions, as also other principles and standards for the design of equipment, work space, and motion.
5. educate Designers, Engineers and Managers on the advantages of and on the application of the principles of biomechanics in industry.

The emphasis in the studies and the training programme is to adopt an integrated approach in association with other disciplines, so that most suitable solutions or methods in tackling the problems in industry are arrived at.

OTHER FACILITIES

The Institute has an Air-conditioned Auditorium with seating capacity for 300 persons and four Conference/Lecture Halls, all of which are helpful in promoting the objectives of the Institute.

For the participants of the programmes there is a well-furnished hostel in the campus.



Shri Bal Govind Verma, Dy. Labour Minister, Government of India, delivering the inaugural address at the Seminar on 'Industry, Environment & Man'



The section of audience at the Colloquium on 'Industrial Carcinogens'