

OTHER R & D ACTIVITIES

In addition to the research and development work undertaken by the four Divisions; the four Developmental Projects, and the activities of the four Experimental Pilot Plants, the Laboratory has some other R & D activities also, which are more in the nature of consultancy/advisory services. These include :

1. Design and development of optical system ;
2. Instrumentation services ; and
3. Sensory aids for the blind.

1. DESIGN AND DEVELOPMENT OF OPTICAL SYSTEMS

Scope and Objectives

To accelerate assimilation of the results of research on optical systems by the Indian optical industry through consultation and, thereby, to ensure rationalization and standardization of the products and production processes in the field of optical instrument manufacture.

Progress

During the period under report, emphasis was laid on giving scientific and technical advice regarding the starting of a lens industry in the hills of Uttar Pradesh for industrialization of economically backward areas.

2. INSTRUMENTATION SERVICES

Scope and Objectives :

- (i) Maintenance and calibration of scientific laboratory-type electrical, electronic and electro-optical instruments and apparatus. Besides rendering this service to the Laboratory, work from other institutional users in respect of imported instruments only, is also undertaken ;
- (ii) Advice on instrumentation problems and also on the availability of Indian-made instruments and components of certain specifications ;

On-the-spot consultancy service for (a) assessment of damage to equipment, (b) technical advice on maintenance of equipment, and (c) inspection reports for initiating write-off, calibration, or repairs; and

- (iv) Inspection service (for NPL scientists only) for new equipment on arrival, or for instruments being returned to the Central Stores.

Progress

Instruments Servicing : 30 instruments were serviced for the NPL scientists and another 15 instruments were serviced for outside parties.

Consultancy and Advisory Services : More than 140 requests were attended to.

3. SENSORY AIDS FOR THE BLIND

Work was undertaken to examine the feasibility of a reading aid for the blind. A working system was made wherein, a probe, on encountering a black dot on paper, generated tactile stimulation on the finger through another probe. Optical scanning was done mechanically by photo transistor, the tactile sensation was produced by piezoelectric bimorphs, and the control was electronic.