

## CITY OF LIVERPOOL COLLEGE OF TECHNOLOGY

## NEW SCIENCE BLOCK

SIR David Eccles, Minister of Education, opened the first instalment of the new City of Liverpool College of Technology on September 30, 1960. The new building provides accommodation for the Departments of Chemistry and Biology, Physics and Mathematics, and Pharmacy. The building (Fig. 1) has been designed and the work carried out under the direction of Dr. Ronald Bradbury, city architect and director of housing. It has been erected by Messrs. Henry Boot and Sons, Ltd., of Bootle, at a cost of £310,500. It is a concrete cased steel-framed structure, faced with rustic brickwork and artificial stone, purpose made bricks and coloured tiles forming patterned infilling panels between the floor-levels on the front elevation. The various floors, formed with precast concrete flooring units, have been finished generally with thermoplastic floor tiling, which in the case of the laboratories is acid resisting. Particular attention has been given to the design of the specialized laboratory furniture and fittings, which incorporate drawer and storage units and which are interchangeable, the whole of the units being finished in acid-resisting lacquer. The various services to the laboratories, which include hot and cold water, gas, electricity, compressed air, vacuum, steam, etc., are concealed in vertical and horizontal ducts, as well as in the suspended ceilings. The latter are formed with rectangular panels of asbestos board, and the patented

system of suspension enables each panel to be removed easily when access to the various services is desired. Each floor is served by an automatically electrically operated passenger and service lift, the latter enabling stores and materials to be transported conveniently from the main store on the ground floor to the materials issue stores on the upper floors. The laboratories have been designed, so far as possible, to house the most modern equipment and apparatus for teaching and research work in the departments concerned.

The Department of Chemistry and Biology occupies the ground and first floors, with certain advanced-research laboratories located on the second floor. The remainder of the second floor and the whole of the third floor accommodate the Department of Physics and Mathematics. The Department of Pharmacy is accommodated on the fourth floor, and a range of animal houses and ancillary rooms has been provided on the main roof. Each department has appropriate types of laboratories, rooms for departmental heads and staff, classrooms, lecture theatres and store rooms. The Department of Chemistry and Biology provides full professional training, postgraduate work and research for chemists and biologists, including courses leading to the external B.Sc. degree of the University of London, the diploma in technology in applied chemistry, and graduateship of the Royal Institute of Chemistry.



Fig. 1. New Science Block, City of Liverpool College of Technology

The Physical Chemistry, and Inorganic and Organic Laboratories are well equipped for teaching purposes. The Organic Research Laboratory includes apparatus specially designed by the staff for research work on gas adsorption, gas chromatography and electrochemistry. The equipment provided in the Instrumental Laboratory includes a recording polarograph, emission spectrograph, and an argon chromatograph. Some important and costly pieces of equipment have been installed in the special laboratories on the second floor. These include a Phillips E.M.100 electron microscope giving a resolution of 20-15 Å., and is being used in conjunction with an Edwards '12 E 6' coating unit for the examination of various inorganic gels and precipitates; a 'Raymax 60' X-ray generator, which is being used for X-ray powder photography, and a 'Unicam S.P.100' infra-red spectrometer. A suite of rooms is provided for research work in radiochemistry and radiobiology.

The Department of Pharmacy is responsible for the training of pharmacists who will eventually take their place in hospitals, manufacturing industry and retail work. Students attend the pharmaceutical chemist qualifying course. The Dispensary provides all the facilities required for modern dispensing. The Pharmaceutical Chemistry Laboratory is fully equipped to deal with standard analytical and preparative procedures with a particular bias to semi-micro techniques. Specialized apparatus includes a spectrophotometer, electrophoresis tank, a polarograph and Karl Fischer apparatus. The accommodation includes the Pharmacology and Physiology Laboratory and the Aseptic Laboratory, which enables students to work under conditions designed to exclude bacterial and fungal contamination from the air. The small-scale manufacturing laboratory permits many large-scale processes to be duplicated accurately. The research laboratories (situated on the second floor) are used for investigations covering pharmaceutical subjects, using modern techniques and apparatus.

The Department of Physics and Mathematics provides courses leading to the National Certificate in Applied Physics and to graduateship of the Institute of Physics, and examinations for external degrees of the University of London. The Department is also responsible for the mathematics and physics classes required by other departments for their certificate, diploma, and Diploma in Technology courses. Postgraduate courses are provided, and the Department has organized a number of research projects. The Physics Laboratories are well equipped and include spectrographic apparatus, high-vacuum equipment and an electron-microscope, the latter being a gift from an industrial concern. A large differential analyser has also been presented to the Department by an industrial firm. For the courses in mathematics and statistics there are various calculating machines, and an analogue computer is to be built.

Research projects undertaken by the Departments accommodated include the following: chromatography, electrochemistry, inorganic, polymer, sugar, surface and radiation chemistry, X-ray diffraction, electron microscopy; electron magnetic resonance, examination of cosmic dust, numerical analysis, and pharmaceutical subjects. A considerable amount of research work is carried out in collaboration with various industrial organizations. A number of members of staff have qualified for research grants from the Department of Scientific and Industrial Research.

Departments of the College offering professional courses award College associateships (A.C.T. (Liverpool)) to students who have satisfactorily completed courses approved for this purpose by the Board of Studies. Full-time and 'sandwich'-course students may be awarded an honours associateship, and, in exceptional cases, only students completing approved part-time courses. The College fellowship (F.C.T. (Liverpool)) is awarded for approved research work carried out in the College. S. A. J. PARSONS

## CROYDON TECHNICAL COLLEGE

A NEW building, which was opened by H.M. the Queen on November 2, houses Croydon Technical College, Croydon College of Art and the Denning Hall. The premises, which occupy a site of nearly four acres, were projected before the War, but construction had to be deferred, and work was not begun until 1953. Although it has been dealt with in three stages under three separate contracts, building work has been going on continuously from 1953. The total cost of the building is about £1,450,000 and of the equipment housed in it about £375,000. The provision made will be enough for some 500 full-time and 10,000 part-time students. The architects are Messrs. Robert Atkinson and Partners, of Manchester Square, London, W.1.

Croydon Technical College traces its ancestry back to the establishment of classes, mainly in scientific subjects, in 1838, when the Croydon Literary and Scientific Institute was founded. But possibly a more important occasion was the foundation of a scheme for technical classes for artisans by the Rev. Oakley Coles, curate of the Croydon Parish

Church, in 1888. Two years later the Croydon Council decided to set up the Polytechnic, based on this modest beginning, and a new building was opened by the then Archbishop of Canterbury, Dr. E. W. Benson, in December 1891. As this was some years before the establishment of the local education authority, the Polytechnic was in fact the first educational institution to be maintained by the Council and is also the oldest technical institution to be maintained by any Council in the Greater London area. Control of the Polytechnic was transferred to the new Education Committee in 1903. The work of the College was extended continuously until, in 1929, H.M. Inspectors reported that the old building was inadequate for the services which the College was providing. Expansion of the work of the College has continued for the past thirty years, and recently the number of student enrolments has been increasing annually by at least 10 per cent. The expansion of the work since 1945 has in fact been greater than during the whole history of the College before that date. Enrolments for the present