

# LABORATORY TECHNOLOGIST SERIES

## **Kinds of Work Covered**

Positions covered by this series provide a technical service to the environmental, chemical, agricultural, geological and analytical fields in a variety of laboratories throughout the service. Incumbents perform or supervise the performance of a variety of tests and procedures of varying complexities, all of which require careful attention to their performance and accuracy for quality control purposes; in support of scientific research, as a service to industry or to provide a technical service to other government departments.

## **Exclusions**

This series does not include positions involving full time field work in the areas of sample collection and testing. These positions are covered by the Environmental Technologist and the Engineering Aid series.

## **Assignment of Levels**

These positions encompass a wide range of technical duties and technical complexity. Technical competence and the supervision of subordinate staff are aspects to be considered in the allocation of positions. Supervision of other technicians or other laboratory staff is normally the governing factor in all allocations to class levels above Technician 2.

The tests performed are classified into three categories of "simple", "standard" and "difficult". "Simple" tests are those which do not require exceptional skills, knowledge or judgment in their performance because the methods are fully prescribed, the manipulations are not difficult and the results are readily recognized. Such tests are learned after brief instructional training and the employee's performance improves as manipulative skills and familiarity with the work processes are acquired through experience. "Standard" tests are those where methods are fully prescribed but some judgments are required in determining causes of deviations from anticipated results or tests which require a series of steps in their performance according to prescribed procedures. Supervision is not closely applied except where new procedures are used or problems are encountered. "Difficult" tests are those that involve primary responsibility for experimental testing techniques where the employee is expected to assist the supervisor in literature research and determine modifications to equipment and procedures necessary to achieve the results desired. This often involves the use of specialized or complex equipment where calibration and accuracy of results is of utmost importance.

Positions involving the performance of a number of "standard" tests or the performance of a single standard test involving a number of variables would

normally be allocated to the Technician 2 level. Positions in which incumbents have responsibility for a specific test area and have line supervision over a few subordinates would normally be allocated to the Technician 3 level. In some cases, where an employee is continuously engaged in difficult testing related to research or development projects, the position could also be allocated to Technician 3. Incumbents are normally expected to instruct other laboratory staff in procedures and monitor the results until the test becomes standard. These positions are usually found only in laboratories with a large number of staff.

# LABORATORY TECHNOLOGIST 1

## GENERAL

This is the entry, training and first working level for employees in laboratories. Under close supervision they participate in a variety of simple tests and procedures in which the techniques are readily learned. Progressively more responsible assignments are allocated and supervision becomes more general as training progresses. They perform simple arithmetic calculations such as totals, averages, simple ratios, percentages, etc. and weigh, measure and record results of tests in which equipment malfunction and deviations are readily discernible. They may be required to abstract specified, easily identifiable data from records; perform simple plotting of such data; and perform specified manual tasks in the assembly, installation and operation of equipment and instruments.

## QUALIFICATIONS

### Knowledge, Abilities and Skills

Elementary knowledge of the fundamental principles of physics, biology and chemistry.

Elementary knowledge of laboratory practices, techniques, equipment and terminology.

Ability to carry out simple technical routines and make simple mathematical calculations.

Ability to understand and carry out oral and written instructions.

Skill in the operation and care of standard laboratory equipment and apparatus.

### Education, Training and Experience

Grade XII graduation with courses in biology, chemistry and physics and preferably one year's laboratory experience.

### Physical Standards

Physically capable of performing the duties as assigned.

# LABORATORY TECHNOLOGIST 2

## GENERAL

Employees at this level perform a variety of standard tests or procedures involving the utilization of a number of standard techniques, manipulative skills, judgment and observational skill. They perform a number of operations following established methods and procedures. They work independently on routine test assignments subject to general supervision for adherence to instructions, accuracy and procedure. Judgments are required in determining deviations from anticipated results. They conduct visual and instrumental examinations of materials and operate and maintain the standard equipment utilized, making adjustments as required. They record test data and perform arithmetical calculations using standard tables and formulae to present data in a specified form. They may be required to assist in the training of junior technicians.

## QUALIFICATIONS

### **Knowledge, Abilities and Skills**

Working knowledge of the fundamental principles of physics, chemistry and biology.

Working knowledge of laboratory practices, techniques, equipment and terminology.

Ability to make mathematical calculations.

Ability to understand and carry out complex oral and written instructions.

Skill in the operation and care of standard laboratory equipment and apparatus.

### **Education, Training and Experience**

Grade XII graduation with courses in biology, chemistry and physics and at least two years' experience in laboratory work or graduation from a recognized Community College in Chemical Technology with preferably one year's experience in laboratory work.

### **Physical Standards**

Physically capable of performing the duties as assigned.

# LABORATORY TECHNOLOGIST 3

## GENERAL

Employees at this level supervise a small number of technicians and are responsible for the operation of a laboratory or section of a large laboratory devoted to routine investigating and testing in a specific field conducting a number of standard tests in a variety of fields. Under the direction of a professional they are responsible for the technical work performed by their subordinates and they assign, schedule and check the technical production. They provide training and supervision to subordinate staff in the performance of a variety of standard tests, and assist them when problems are encountered. In addition, they perform the more demanding tests themselves and assist their supervisor in the initiation of new or experimental tests techniques. Also included in this class are positions where the incumbents as senior technicians perform a variety of difficult specialized tests. In such positions they normally assist in research or experimental projects by performing a variety of difficult tests which require frequent modification in procedures and apparatus and they maintain detailed and accurate records of observations and test data.

## QUALIFICATIONS

### **Knowledge, Abilities and Skills**

Knowledge of the fundamental principles of physics, chemistry and biology.

Thorough knowledge of laboratory practices, techniques, equipment and terminology.

Ability to make mathematical calculations.

Ability to supervise the work of others and to assume responsibility for carrying out routine laboratory work.

Ability to establish and maintain effective working relationships with senior professional staff and subordinates.

### **Education, Training and Experience**

Grade XII graduation with courses in chemistry, biology and physics and at least five years' laboratory experience or graduation from a recognized Community College in Chemical Technology with three years' laboratory experience.

### **Physical Standards**

Physically capable of performing the duties as assigned.