

## **PVQ/CVQ Basic Information about the Schemes**

Each candidate assembles a portfolio of evidence of competence for each performance criterion. There is no time limit set by the IST for completion of the qualifications after the candidate has been registered but candidates are generally able to complete their portfolios within 6 to 12 months.

The occupational standards are expressed as Units of Competence, which relate, in general to scientific and technical skills and cover areas such as:

- familiarity with the scientific working environment
- health and safety procedures in the laboratory
- general laboratory procedures
- the techniques of laboratory measurement
- use of laboratory services
- use of basic laboratory equipment

### **Benefits of the Scheme**

Employers :

- know what their technicians can do to a given standard
- qualified, well-trained technicians contribute to the 'good name' of the institution

Technicians :

- know the standards expected of them
- their achievements are recognised
- their confidence, self-esteem and motivation is enhanced
- their skills are relevant to any science laboratory within or without their institution allowing mobility between work centres

For technicians who work in education, there are further benefits for students:

- they are provided with a high quality science education in a safe environment
- they work in a safe environment
- they develop skills in good laboratory practice
- their examination performance in science is enhanced
- they may be motivated to pursue science as a subsidiary or major subject

The Institute has designed comprehensive support packages, consisting of detailed exercises and the associated documentation to cover all the performance criteria included in the Vocational Qualifications, which may be used for guidance to complement the training and assessment arrangements at the workplace.

The qualifications are offered through Registered Centres and for details of these Centres can be obtained through the awarding body, PAA\VQSET (<http://www.paa-uk.org>)

## **Core Vocational Qualification (CVQ)**

This qualification is suitable for laboratory technicians who have sufficient experience to be able to work with limited supervision. It reflects the skills that a competent laboratory technician should demonstrate in normal work activities.

### UNIT 1. Demonstrate familiarity with the scientific working environment

This unit forms an introduction to the science environment. It assesses competence in common systems found in the workplace, including basic safety procedures; recording, filing and distribution systems; also effective communication within a team and with others. This unit also covers competences in recognition of common laboratory apparatus.

### UNIT 2. Demonstrate a knowledge of health and safety procedures in the laboratory

This unit covers competence in basic safety procedures in the workplace typically expected of an individual after spending a short time in the laboratory

### UNIT 3. Perform general laboratory procedures

This unit covers the competences of maintaining the workplace, and of maintaining and controlling the use of stocks of laboratory materials or equipment.

### UNIT 4. Perform the techniques of laboratory measurement

This unit covers the standard mensuration techniques of length, mass and volume as well as of other physical properties such as pH and temperature.

### UNIT 5. Use laboratory services correctly and safely

This unit covers the competences required for the safe use and maintenance of those services, such as gas, water, electricity, etc., normally to be found in the laboratory.

### UNIT 6. Perform safely and efficiently using basic laboratory equipment

This unit covers the physical and chemical manipulative techniques required for the care, maintenance and use of basic laboratory equipment.

### UNIT 7. Support laboratory techniques and practice using complementary skills

This unit covers the everyday conduct and skills that laboratory technicians require to complement their technical competences.

### Support Material

This consists of 40 practical exercises and corresponding records of assessment which provide underpinning knowledge for candidates and enable them to demonstrate competence in most aspects of the standards.

## CVQ Exercises

1. To Investigate Risk Assessment
2. To Investigate Pathways for Communication.
3. To Investigate Actions to take in Emergencies.
4. To Investigate the Work Area.
5. To Investigate the Working Environment.
6. To Determine Dew Point and Relative Humidity.
7. To Investigate Laboratory Services.
8. To Construct a Manometer and Measure Gas Pressure.
9. To Investigate Gas Cylinders
10. To Investigate Measurement of Mass.
11. To Investigate Measurement of Length.
12. To Investigate Measurement of Volume.
13. To Investigate Measurement of Temperature.
14. To Investigate Means for Self-protection.
15. To Investigate Equipment used for Handling and Support.
16. To Investigate Connectors.
17. To Investigate Methods for Heating.
18. To Investigate Methods for Cooling.
19. To Investigate Methods of Separation.
20. To Identify Electrical and Electronic Components.
21. To Investigate Simple Circuits.
22. To Verify Ohm's law.
23. To Investigate the Multimeter.
24. To Investigate Mains Plugs, Cables and Fuses.
25. To Investigate Glassware.
26. To Investigate Means of Stirring.
27. Dealing with Chemicals.
28. To Investigate the Fume Cupboard.
29. To Investigate Water used in the Laboratory.
30. To Prepare Solutions.
31. To Investigate pH.
32. To Prepare a Standard Solution and Standardise an Acid.
33. To Investigate the pH Meter.
34. To Investigate the Temperature Control of a Water Bath.
35. To Investigate the Effect of Temperature on Yeast.
36. To Prepare Simple Salts.
37. To Separate a Mixture into its Components.
38. To Prepare a Simple Organic Compound.
39. To Investigate the Compound Microscope.
40. To Investigate a Display Screen Workstation.