2009 PRESCRIPTION

UNIT 2
HYDRAULICS, MATHEMATICS AND WATER SUPPLIES

EXTENT OF RECOMMENDED KNOWLEDGE

- Knowledge and application of mathematical calculations involving addition, subtraction, multiplication and division of whole numbers, decimal fractions and fractions.
- Knowledge and application of mathematical calculations involving percentages, simple proportions and ratios.
- Knowledge and application of formulae for the calculation of; areas, volumes, capacities, perimeters and surface areas of plane figures including circles, triangles, quadrilaterals, cylinders, cones and prisms. Transposing of each of the components. Capacity of water mains.
- Knowledge and application of hydraulic formulae for the calculation of; pressure, head, velocity and discharge of water from a nozzle, friction loss, jet reaction, kinetic energy and flow capacity of water mains.
- Draw and interpret straight line graphs, curved line graphs, bar graphs and pie graphs.
- Knowledge of water supplies, including open water supplies and reticulated water supplies and components of those supplies.
- Knowledge of the relevant Code of Practice for Fire Fighting Water Supplies.
- Knowledge of Water Testing requirements, methods, recording and reporting.
- Knowledge of Comprehensive Flow Testing.

RELEVANT STUDY MATERIAL

General:

- SNZ PAS 4509:2008 New Zealand Fire Service Firefighting Water Supplies Code of Practice

- NZFS Firenet - Training - Training Material:
  - General:
    - FF Training Notes
    - 37 - Flow Testing of Mains & Hydrants Inspections
  - Technical:
    - Pump Operator Program Technical Manual (POP-2)
    - Section 2 Hydraulics