



2009 PRESCRIPTION

UNIT 3 SCIENCE

RECOMMENDED KNOWLEDGE

Physics

Basic definitions and terms
The physics of combustion
The principles of Heat and Temperature
Extinguishing agents
Transmission of heat
Thermal expansion, thermostats
Changes in state, heat units
Gases and vapours, the gas laws
Understanding of Flashover and backdraught & fire gas ignition III

Chemistry

Basic definitions and terms
Composition of matter
Chemical equations
The chemistry of combustion
Principles of fire extinguishment
Fire extinguishing agents
Hydrocarbons
Flammable liquids
Fire involving plastics
Acids and alkalise
Oxidising and reducing agents
Noxious fumes and gases
Specific gravity, vapour density and Miscibility IV

Electricity

Basic definitions and terms
AC and DC current production and transmission IV
Ohms law IV
Dangers of static electricity
Simple circuits and standard symbols IV
Transformers and pole mounted equipment III
Power generation and distribution stations

Mechanics

Basic definitions and terms

Speed, acceleration

Force

Friction

Work and energy

Gravity

Levers

Pulleys

RECOMMENDED READING

Firefighter Training Notes Volume 1

- Section 2
- Section 10
- Section 20

Firefighter Training Notes Volume 2

- Section 33

Phase III Training Notes

- Section 11
- Section 15

Phase IV Training Notes

- Section 4
- Section 17