Skill Component -I : Fire Engineering Science-101

Component	Unit (Module)	Subunit (Session)	Learning objective
Theory Demonstration Practical	**Chemistry of Fire**	(1) Basic Concept (2) Chemical Reaction (3) Heat Formation and Heat of Combustion (4) Mechanism of Combustion (5)Flash Point, Fire Point (6) Fire Triangle, Components of Fire (7)Fire Tetrahedron, Chain Reaction (8) Spread of Fire, Extinction of Fire (9)Back Drought, Delayed Back drought	Understanding basic principles of Fire & Safety Engineering.
Theory Demonstration Practical	**Electrical Fire**	(1) Sources of Electricity (2) Fuse short circuit (3) Common causes of Electric Fire (4) Fire Fighting measures for Electric Fire	Causes of Electrical Fire & Its Prevention.
Theory	**Hydraulics**	(1) Water Pressure And Weight (2) Water weight and water per cu. Ft (3) Friction loss of water	Usage of Water for Extinguishing Fire
Theory Demonstration Practical	**Fire Extinguisher**	(1) Wet chemical powder Fire Extinguishers (2) Water CO_2 Gas Cartridge Fire Extinguishers (3) Pressure Fire Extinguishers (4) Foam Type Fire Extinguishers (5) Dry Chemical Powder Fire Extinguishers (6) CO_2 Gas Type Fire Extinguishers (7) Operation, Care, Maintenance and Refilling of Extinguisher	To Familiarize with various types of Fire Extinguishers.
Theory	**Water Supply & Water Relay system**	(1) Sources of Water, (2) Type Of Hydrant, (3) Care And Maintenance Of Hydrants, (4) Types of Water Relay System &Its Advantages and Disadvantages	To Familiarize with usage of water resources & Hydrants for Extinguishing Fire.

Skill Component -II :- Fire Protection and Fire Fighting-102

Component	Unit (Module)	Subunit (Session)	Learning objective
Theory Demonstration Practical	**Building Design**	(1) General Requirement of Building Design in Fire Prevention (2) Wall, Roofs, Basements, Floors and Openings (3) Electrical Installations, (4) Adopting Building for other Purpose (5) Access for Fire Appliances (6) Control of Smoke and Hot Gases (7) Escape from Buildings (8) Stores and other Buildings	To understand building design and fire Protection.
Theory Demonstration Practical	**Installation of Fire Protection Systems in Buildings**	(1) Introduction of Sprinkler System and their Care and Maintenance. (2) Elementary requirements of Drenchers, (3) Rising Mains (4) Hose Reel and Down-comer (5) Fire Alarms System.	
Theory	**Rural fire**	(1) Difficulties of fire fighting in rural (2) Combustible of rural fire (3) Causes of ruralfire (4) Method of firefighting.	

Skill Component -III : Fire Fighting Process –103

Component	Unit (Module)	Subunit (Session)
Theory Demonstration Practical	**Small Gears**	(1) Introduction of Small Gears (2) Breaking gears (3) Cutting gears (4) Rescue gears (5) Transport gears (6) Miscellaneous (7) Turning over gears (8) Care and Maintenance of small gears.
Theory Demonstration Practical	**Hose and Hose Fitting**	(1) Delivery hose (2) Delivery hose coupling (3) Suction hose coupling (4) Branches and Nozzle (5) Monitors (6) Collecting Breeching (7) Dividing Breeching (8) Adapters (9) Wrenches (10) Hose Ramps
Theory Demonstration Practical	**Foam and Foam making Equipment**	(1) Types of Foam compound (2) Foam making equipment (3) Working procedure of equipment (4) Description part of Foam making equipment (5) Care and maintenance of Foam Equipment (6) Storage of Foam compound.
Theory Demonstration Practical	**Ladders**	(1) Hook ladder (2) Extension ladder (3) Escape T.T.L./SnorkelLadder (4) Care, maintenance, standard test ladder.
Theory Demonstration Practical	**Pump and Primers**	(1) Introduction and Functions of Pumps (2) Types of Pumps (Force Pump, Lift pump, Centrifugal pump) (3) Care & Maintenance of Pumps. (4) Introduction and functions of Primers. (5) Types of Primers.

Skill Component -IV : Fire Service Administration- 104

Component	Unit (Module)	Subunit (Session)
Theory	**Disciplined**	(1) Introductions (2) Importance of discipline (3) General Principals of discipline. (4) Essential of Discipline and Outward Signs.
Theory Demonstration Practical	**Watch room Procedure**	(1) Identification of Communication requirement of Fire Service, (2) Control Room, Equipment Station, (3) Turn out Area, Topography and Telephone Call Area, Mobilizing boards and maps. (4) Radio Communication and use of VHF sets. (5) Log, Occurrence book and Incident Reporting.
Theory	**Fire Service Organization**	(1) Ranks and appointment in Fire Services (2) Administration of State/City Fire Services (3) Maintenance of Fire Station (4) Responsibilities of Fire Station In charge (5) Documentation at Fire Station
Theory	**Practical Fireman ship**	(1) Quality of a Good Fireman (2) Duties of Fireman (3) Basics of Fire Fighting
Theory Demonstration Practical	**Special Service call**	(1) Rescue Operations from Sewers, Gas Leakage at Industrial Sites, Wells, Rivers, Ponds, Collapsed Buildings, Road Accident and Elevators. (2) Fireman Lifts