



HPCL RAJASTHAN REFINERY LIMITED

Regd. Office : Tel Bhavan, Sahkar Marg, Lal Kothi Vistar Jyoti Nagar

CIN NO: U23201RJ2013GOI043865

SYLLABUS FOR COMPUTER BASED TEST 2023-24 **FIRE & SAFETY POSITIONS**

1. **Fire Engineering Fundamentals**: Chemistry of Fire, Combustion process, Limits of Flammability, Flame Spread, Effects of Heat, Fire Resistance, Fire Load etc.
2. **Fire Fighting Chemicals**: Water, Foam, DCP, Clean agents etc.
3. **Fire Detection & Control**: Fire Detection principles, classification of detectors, Fire Extinction methods, water based, chemical based, clean agent systems, operation and maintenance of detection / alarm systems
4. **Fire Protection – I (Special hazards: Industrial Fires)**: Fire Suppression Systems, Fire Water systems, sprinkler systems, Fire resistant construction, Emergency exits
5. **Fire Protection – II (Special hazards: Flammable Liquid Storages)**: Plant siting considerations, Ignition source control, Hazards of Bulk storages, Fire Protection for Flammable storages, Passive barriers
6. **Fire Services Hydraulics**: Sprinkler system demand, hydraulics of sprinkler systems etc.
7. **Fire Safety Laws**: Doctrine of Sovereign immunity; Factories Act, Explosives act, Petroleum act etc.
8. **Fire Codes and Standards**: Standards for Fire Equipment, Personal Safety equipment etc.
9. **Paramedics / First Aid**: Management of Burns, Fractures, wounds, trauma handling etc.
10. **Inspection & Testing of Fire Fighting Systems**: Fire Sprinkler testing, OISD/NFPA standards for testing & Inspection, Fire Pumps testing etc.
11. **Safety Management**: Goals & Need of Safety, Accident Prevention, Accident Investigation, Personal Protection equipment etc.
12. **Safety in Construction**: Safety in welding & gas cutting, excavations, work at height, electrical, material handling, lifting/hoisting etc.

13. **Safety Engineering:** Accident trends in Industry, Safety Indices, Frequency & Severity Rates, Job Safety Analysis, work permit administration etc.

NOTE: The syllabus/topics mentioned are indicative in nature. Candidates are expected to possess significant knowledge/proficiency pertaining to the relevant subjects and their qualifying degree