FAQ's

1. **Explain the working of a Fire Alarm system.**

   A fire alarm system consists of fire sensors, such as smoke and heat detectors, located throughout the building, connected to a main alarm panel by special cables. The panel is in turn connected to a set of hooters or speakers that give an audible alarm throughout the building and its surrounding areas.

2. **What are the different types of Sprinkler systems and their applications?**

   There are four main types of sprinkler systems:

   - Wet - The pipes are permanently charged with water and used for all locations except where freezing temperatures are likely to occur or special conditions exist.
   - Dry - The pipes are normally charged with air under pressure.
   - Alternate - Can be arranged to be either wet or dry depending upon ambient temperature conditions.
   - Pre-action - The pipes are normally charged with air, and get filled with water when a fire actuates a separate detection system. Sprinkler heads then operate individually.

3. **What are the two types of External Hydrant systems?**

   There are two types of hydrants - stand-post type, or underground type(sluice-valve type). Stand post column fitted with one (single headed) or two (double headed) 63mm male couplings (male couplings with blank caps are normally provided for city or street hydrants, and female couplings with blank caps are normally provided for internal private hydrants).

   Underground type hydrants are placed underground alongside the water mains. The hydrant consists of three main castings, the inlet piece which is connected to the pipe, the sluice valve itself and the duckfoot bend leading to the outlet.

4. **Explain Dry Riser and Wet Riser system and how they play an important role in fire safety for High – rise buildings.**

   Dry riser system is not normally charged with water but could be charged either through the fire service inlet provided at the bottom, or through an installed pump when required, or directly from a fire appliance. A wet riser system remains charged throughout so that by connecting delivery hoses, firefighting operations could be carried out immediately.

   High-rise buildings have unique challenges related to fire protection such as longer egress times and distance, evacuation strategies, fire department accessibility, smoke movement and fire control. The numbers of persons living on high-rise buildings are high compared to low-rise buildings, and only evacuation method in case of fire is the staircase. Time is essential in the control of fire. Automatic sprinkler systems are one of the most reliable methods available for controlling fires. Sprinkler systems help to reduce the growth of a fire, thereby increasing life safety and limiting structural damage. These automatic sprinkler systems are fed from the dry risers or wet risers.

5. **Write a note on the different types of Fire Extinguishers**

   The different types of fire extinguishers are,

   - Water Fire Extinguishers: The cheapest and most widely used fire extinguishers. Used for Class A fires. Not suitable for Class B (Liquid) fires, or where electricity is involved.
   - Foam Fire Extinguishers: More expensive than water, but more versatile. Used for Classes A & B fires. Foam spray extinguishers are not recommended for fires involving electricity, but are safer than water if inadvertently sprayed onto live electrical apparatus.
   - Dry Powder Fire Extinguishers: Often termed the ‘multi-purpose’ extinguisher, as it can be used on classes A, B & C fires. Best for running liquid fires (Class B). Will efficiently extinguish Class C gas fires, BUT BEWARE, IT CAN BE DANGEROUS TO EXTINGUISH A GAS FIRE WITHOUT FIRST ISOLATING THE GAS SUPPLY. Special powders are available for class D metal fires.
   - CO2 Fire Extinguishers: Carbon Dioxide is ideal for fires involving electrical apparatus, and will also extinguish class B liquid fires, but has NO POST FIRE SECURITY and the fire could re-ignite.
     - Wet chemical - Specialist extinguisher for class F fires.

- For Metal Fires: A specialist fire extinguisher for use on Class D fires - metal fires such as sodium, lithium, manganese and aluminium when in the form of swarf or turnings.