SAFETY DEVICES :-

(1) THERMOSTAT :-

↦ Refrigerator thermostat is the brain of Refrigeration cooling System.

↦ When required temp. (required) established in Refrigerator, then thermostat stops the flow of Refrigerator electricity to compressor.

↦ Main fuction is to maintain correct temp. range (33 - 40° F) inside the freeze.

↦ For this thermostat ON (or) OFF the Refrigeration System.

↦ There are 3- types -

(i) Vapour pressure.

(ii) Bimetallic.

(iii) Solid state.

(i) VAPOUR PRESSURE THERMOSTATS :-

↦ It is a electromechanical Device which help to find out temp. via Bulb.

↦ Volatile liquid is filled in this Bulb which increase (or) decrease (volume) with temp.

↦ Bulb is attached to a diaphragm through capillary tube.

↦ when temp. ↑ ⟶ fluid expand → Diaphragm pushes out → Switch off → Cooling System ON.

(ii) Bimetallic Thermostats :-

↦ It is made up of (sensing strip) two different metals which expands and contracts at different rate.

↦ Used sensing strip.

↦ One - Metal is more sensible and other is less.

↦ when temp. ↑ → strip wrap one side → switch off → Refrigeration System start.

(iii) SOLID STATE THERMOSTAT :-

↦ Used an electronic element. also called as Digital Thermostat.

↦ This element get more or less electrically conductive with change in temp.

↦ Microprocessor reads the sensing elements reading and command the Refrigeration system.

(8) OVER LOAD PROTECTION :-

↦ winding coolants.
↦ Thermal overloading.
↦ Temp. Sensing elements
↦ Starting relay.
↦ poor voltage supply.
↦ Unbalanced pressure Condition.
↦ Insulation.
↦ Overload – cum - starting relay.

(8) HIGH AND LOW PRESSURE CUTOUTS :-

↦ H.P. and Low pressure cutouts in Compressor.
↦ Low pressure Cutouts used as a Safety Control and temp. control.
↦ Useful in remote Installation.

"IMPORTANT QUESTIONS"

(1) What is working principle of Compressor? Explain the working of Reciprocating Compressor with neat sketch. What are all the classifications of Compressor?

(2) What is the function of the Condenser? Explain the Working of a evaporative type Condenser by explaining its different elements.

(3) Explain the function of evaporator. Explain the working of evaporator in Refrigeration System with neat sketch.

(4) What is expansion Valve? Explain the working principle of "Thermostatic Expansion valve with neat- sketch.

(5) What are all the Safety Devices? Explain the working of thermostat in details.

Thanking You!