

Ques 4: Explain the equipment of a electrical substation with symbol?

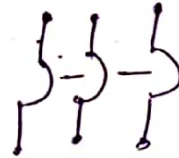
Ans: (1) Distribution Transformer.

- (2) Circuit breaker.
- (3) Lightning arrester
- (4) Air Break (AB) switches / Isolator
- (5) Insulator
- (6) Busbar
- (7) Capacitor Bank
- (8) Earthing
- (9) Fencing
- (10) Distribution panel board

(1) Distribution Transformer: It is basically a static electrical device which step down the primary voltage of 33KV to secondary distribution voltage of 415-440 volts between phases 215 volts between phase and neutral through delta star winding by.



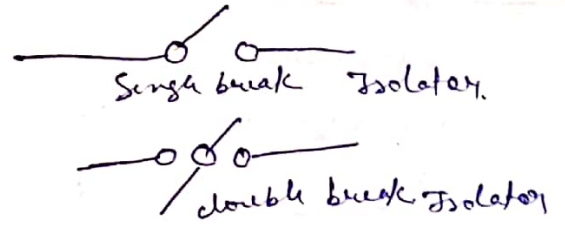
(2) → Circuit breaker: A circuit breaker is automatically operated electrical switch designed to protect and electrical circuit from damage caused by excess current from an overload or short circuit.



(3) Lighting arrester: A lightning arrester is a device used on electric power system and telecommunication system to protect the insulators and conductors of the system from the damaging effect of lightning. The typical lightning arrester has a high voltage terminal a ground terminal



(4) Air Break Isolator: The switch whose contact open in the air and quenching of an arc achieved by compressed air such type of switch is called air break switch.



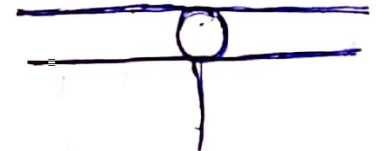
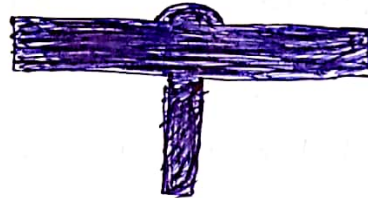
5: Insulator: An electrical insulator is a material in which the electron does not flow freely or the atom of the insulator have tightly bound electrons whose internal electrical charge do not flow freely very little electric current will flow through it.



Symbol of insulator.

6: Bus bar: The electric power distribution a busbar is a metallic strip or bar housed inside switchgear panel board or busway enclosure for local high current power distribution.

They are also used



7: Capacitor bank is a group of several capacitors of the same rating that are connected in series or parallel.

with each other to store electrical energy then used to correct or correct a power factor lag or phase shift in an alternating current (AC).

