Mod-2 MCQ Probable SGPD 7th EE/EEE

① ——— relay are used for phase fault on long line.

(A) Impedance (B) Reactance (C) Either of the above
(D) None of above

② Induction cup relay is operated due to change in

(A) Current (B) voltage (C) Impedance (D) All of above.

③ A short-circuit is identified by

(a) no current flow (b) Heavy current flow
(c) voltage drop (d) voltage rise.

④ Relay can be designed to respond to change in

(A) Resistance, reactance or Impedance
(B) voltage and current
(C) Temperature
(D) All of above.

⑤ Overload relay are of ——— Type.

1. Solid state 3. Electromagnetic.
2. Thermal 4. All of above

(6) function of auxillary relay is

(A) Change over relay. (C) Tripping relay.
(B) Supervisory relay (D) All of above.

(7) which is measuring relay.

(A) Current relay. (C) Power relay.
(B) voltage relay (D) All of above

(8) PSM is given by

(A) Fault current / pickup current
(B) Pickup current / Fault current
(C) Fault voltage / Fault Current
(D) None of above

(9) which is called rated burden of relay ?

(A) voltage (B) Ampere (C) Power consumption
(D) None of above.

(10) Rated burden of relay in AC is

(A) voltage (B) Ampere (C) VA (D) none of above.

(11) In power system nearly 50% of fault occure in

(A) OH line (B) Transformer (C) Generator (D) Switchgear

(12) which of following is Unit type Protection in Feeder

(A) Directional time graded Protection
(B) Distance Protection
(C) Balanced voltage System.
(D) None of above.

(13) which of the following is non-unit types of protection in Transmission line.

(A) Pilot wire Protection (B) Phase Comparison.
(C) Carriere current Protection (D) current graded O.C Protection

(14) Which fault is related to power Transformer

(A) Overheating of core (B) Earth Fault
(C) Phase - Phase Fault (D) all of above.

(15) merz Price Protection is used for.

(A) Transformer (B) Alternator (C) Both A & B (D) none

(16) merz Price Protection works on principle of

(A) Current balance (B) voltage balance.
(C) power balance (D) none of above.

(17). Which Protection System is used for Earth fault in Power Transformer.

(A) Merz Price protection (B) Earth Fault Protection

(C) Both A and B (D) none of above

(18). Which relay Provide Signal before the Fault

(A) Buchholz relay (B) over current relay

(C) Undere current relay (d) None of these.

(19) The Transmission line distance Protection relay having the Property of being inherent directional is

(A) Impedance relay (B) MHO Relay

(C) Ohm relay (D) Reactance relay.

Module-II

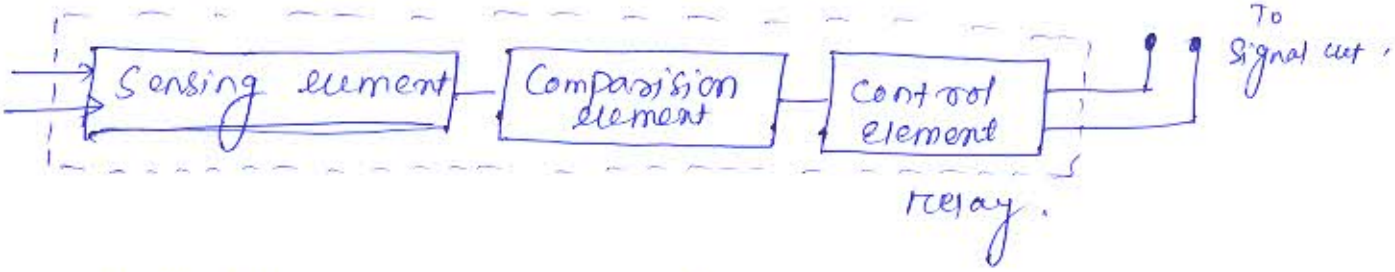
SGPD

Short Question

1. What are the basic element of relay. Draw the Basic circuit.

Ans:- The basic element of relay are

(i) Sensing element
(ii) Comparing element.
(iii) Control Element.



2. How Relay are classified

Ans:- according to the connection

(I) Primary relay
(II) Secondary relay.

according to operation

(a) main relay.
(b) Auxillary relay.
(c) Signal relay.

According to construction

(1) Electromagnetic attraction.
(2) Electromagnetic induction.

3. Define pickup current.

Ans:- Pickup current is the minimum current in relay coil at which relay start to operate. So long as the relay current less than pick-up value the relay does not operate.

4. How the relay design and construction can be made.

Ans:- The design of protective relay normally divided into following stage.

(i) Selection of the operating characterstics.
(ii) Selection of proper construction.
(iii) Design of contact movement.

5. What is PSM.

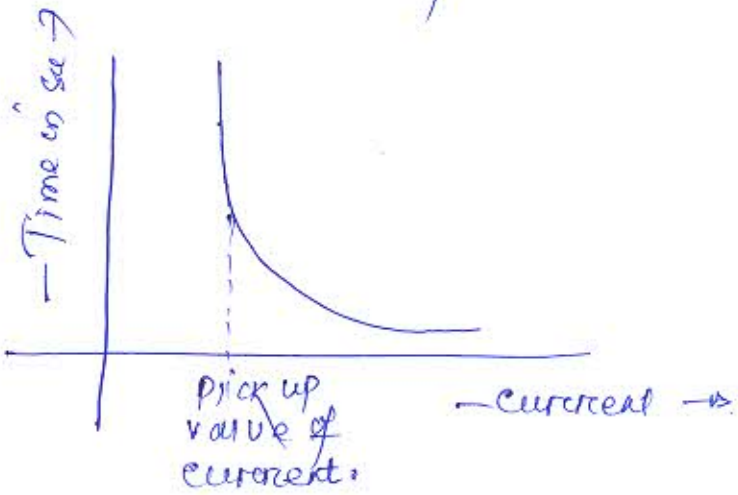
Ans:- It is defined as the ratio of fault current in relay coil to pick-up current.

$$PSM = \frac{\text{Fault current in relay coil}}{\text{Pickup current}}$$

$$= \frac{\text{Fault current in relay coil}}{\text{Rated secondary current} \times \text{Current setting}}$$

6. Show the characterstic of inverse-time relay.

Ans:-



7. What are the various types of relays employed for Protection of apparatus and Transmission line.

Ans:- These relays are

(i) Over Current relay.
(ii) Under voltage relay.
(iii) Directional relay.
(iv) Under frequency line.
(v) Thermal relay.

8. Which type of Protective Devices are best suited for Travelling wave in electric power System?

Ans:- lightning Arrestor are generally suited from Travelling wave in electric power System.

9. What will be the value of pickup value current if rated secondary current of C.T is 5A and current setting is 150%.

Ans:- pickup value of current = current setting × Rated C.T secondary current

= 150% × 5

= 1.5 × 5 = 7.5 A.

(10) What are the various features of directional relay.

Ans:- (i) High speed of operation.

(ii) High sensitivity.

(iii) Ability to operate with Low value of voltage.

(iv) Adequate short time.

(v) Low Burden.

(11) What are the various types of Feeder Protection

Ans:- The various types of feeder protection are

(i) Over Current Protection.

(ii) Distance Protection.

(iii) pilot Protection.

(12) Distinguish between the term "overload" and over current

Ans:- Overload in power system occour due to excessive load on the system.

Over current arises due to excessive current flowing in the power system. overcurrent due to external fault.

(13). Write full name of IDMT Relay and give one example where such relay is used.

Ans:- The full name of IDMT relay is Inverse Definite minimum time. This relay is used for protection of Feeder.

(14) Write two limitation of over current relay used for protection of Transmission line.

Ans:- (i) As the fault in Transmission line and source impedance are unpredictable and variable, proper selection can't be made and loss of selectivity can lead to danger to the stability of power system.

(ii) Large fluctuations of load may also take phase proper earth protection also can't be made.