



- (c) armature core air gap  
(d) all of the above
- f)** The current zero interruption, in oil and air blast circuit breakers, is achieved by **1**  
 (a) lengthening of the gap  
 (b) cooling and blast effect  
 (c) both (a) and (b)  
 (d) deionizing the oil with forced air
- g)** Directional relays are based on flow of **1**  
 (a) power  
 (b) current  
 (c) voltage wave  
 (d) all of the above
- h)** Large internal faults are protected by **1**  
 (a) merz price percentage differential protection  
 (b) mho and ohm relays  
 (c) horn gaps and temperature relays  
 (d) earth fault and positive sequence relays
- i)** The ground wire should not be smaller than No \_\_\_\_\_ copper. **1**  
 (a) 2  
 (b) 4  
 (c) 6  
 (d) 10
- j)** Distance relays are generally **1**  
 (a) split phase relays  
 (b) reactance relays  
 (c) impedance relays  
 (d) none of the above
- k)** The relay with inverse time characteristic will operate within **1**  
 (a) 1.5 sec  
 (b) 5 to 10 sec  
 (c) 5 to 20 sec  
 (d) 20 to 30 sec
- l)** In a single busbar **1**  
 system there will be complete shut down when  
 (a) fault occurs on the bus itself  
 (b) fault occurs on neutral line  
 (c) two or more faults occur simultaneously  
 (d) fault occurs with respect to earthing





PSM	2	3	5	8	10	15
Time(sec)	10	6	4.5	3.2	3	2.5

- b) Compare static and Electromagnetic relays 4
- c) What is meaning of Protection circuit & Explain it. 3

**Q-6 Attempt all questions (14)**

- a) Write the Merits and Demerits of CT & PT 4
- b) Why neutral grounding is required? Explain any one method of neutral grounding. 5
- c) Explain the protective schemes use for bus-bar. 5

**Q-7 Attempt all questions (14)**

- a) In a short circuit test on a circuit breaker, the following data was obtained on a frequency transient. 7
- i) Time to reach the peak of restriking voltage  $55\mu\text{sec}$ .
- ii) The peak restriking voltage 100 Kv
- Determine the (a) natural frequency of the circuit, (b) Avg. rate of rise of restriking voltage
- b) Explain minimum oil circuit breaker, with its advantages and disadvantages 7

**Q-8 Attempt all questions (14)**

- a) Explain the Buchholtz relay Protection with help sketch. 4
- b) Explain the different types of faults in generator. 5
- c) Discussed about the transformer protection in power system with help of sketch 5

