

Roll No.

MEHP/MEPS/MTPS-103

M.E./M.Tech. I Semester

Examination, November 2019

Advance Power System Protection Relays

Time : Three Hours

Maximum Marks : 70

- Note: i) Attempt any five questions.
 ii) All questions carry equal marks.

http://www.rgpvonline.com

1. a) Explain the nature and causes of Faults. Discuss the consequences of faults on power system.
 b) What is a Summation transformer? Where is it used? 14
2. a) Explain what are amplitude and phase comparators.
 b) Discuss the principle of a coincidence circuit for phase comparator. 14
3. a) Enlist the merits and demerits of Static relays.
 b) Explain the principle of static relay. Enlist any five application of it. 14
4. a) Enumerate the relaying schemes which are employed for the protection of a modern alternator.
 b) Discuss various protective schemes employed for the protection of large power transformer against short-circuits. 14

http://www.rgpvonline.com

5. a) With a neat sketch, discuss the differential scheme for bus-zone protection.
 b) What is Carrier blocking scheme? Discuss its merits and demerits one other types of carrier-aided distance protection. 14
6. a) Describe the realization of directional overcurrent relay using a microprocessor.
 b) How can digital distance relaying algorithms be implemented on the 8086 microprocessor? 14
7. a) Describe a digital technique for the removal of the D C offset component from the current signal.
 b) Why is the half-cycle data window? preferred over the full-cycle data window for digital distance relaying? 14
8. a) Discuss various types of Hall effect devices used in design of protection relaying.
 b) Explain the principle of sampling circuit. Also discuss the design of zero crossing defector using circuit diagram. 14

http://www.rgpvonline.com

http://www.rgpvonline.com