

Roll No.

23289

**M. Tech. 2nd Sem.
(Electrical Power Systems)
Examination – May, 2016**

ADVANCED POWER SYSTEM PROTECTION

Paper : MTEPS-204

Time : Three Hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any *five* questions out of eight questions.

All questions carry equal marks.

1. (a) Explain what are amplitude and phase comparator ?
- (b) Discuss merits and demerits of static relay.

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2. Discuss in detail different types of amplitude comparators with neat sketch.
3. (a) Why IDMT relays are widely used for overcurrent Protection ?
- (b) Describe and draw Time current characteristics of overcurrent relays and applications.
4. (a) Explain operating Principle of impedance relay and also draw connections of impedance relays.
- (b) Explain Static MHO relay using an amplitude comparator.
5. (a) Explain phase comparison type carrier current protection with Schematic diagram.
- (b) Discuss the limitations of wire pilot protection. What type of pilot is used for protection of EHV and UHV transmission lines.
6. Write technical notes on :
- (a) Transformer protection
- (b) Protections of alternator
7. Describe the realization of a directional impedance relay using Microprocessor.
8. (a) Explain lightning arrestors or surge divertors.
- (b) Discuss Protection of Transmission lines against direct lightning Strokes.