

Roll No.

23289

M. E./M. Tech. 2nd Semester (EE-EPS)

Examination – June, 2013

ADVANCED POWER SYSTEM PROTECTION

Paper : MTEPS-204

Time : Three hours]

[Maximum Marks : 100

Before answering the question, 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 : (i) Attempt any five questions.
(ii) Use of non programmable calculator is allowed.*

1. (a) What are the advantages of static relays over electromagnetic relays ? 10
- (b) Explain what are amplitude and phase comparators ? 10
2. (a) Discuss the operating principle of a rectifier bridge phase comparator. 10

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- (b) Explain the principle of a coincidence circuit for phase comparator. 10
3. (a) What are the various types of over current relays ? Discuss their area of applications. 10
- (b) Explain the static directional over current relays with neat block diagram. 10
4. (a) Discuss the current graded over current protection scheme. 10
- (b) Explain the over current protection scheme of ring main system. 10
5. (a) What are different types of distance relays ? Compare their merits and demerits. 10
- (b) What is an angle impedance relay ? Discuss how its characteristic is realized using the phase comparison technique. 10
6. Explain the principle of Merz-Price system of protection used for power transformer. What are the limitations of this scheme and how are they overcome. 20

7. (a) Describe the microprocessor based reactance relay. 10
- (b) Explain the microprocessor implementation of digital distance relaying algorithm. 10
8. Explain the scheme of Protection of Transmission line and substation against the lightning strokes. 20
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