

Total No. of Questions : 6]

SEAT No. :

P3912

[5462]-626

[Total No. of Pages : 2

M.E. (Electrical) (Power Systems)
ADVANCED POWER SYSTEM PROTECTION
(2017 Course) (Semester-III) (End Semester) (603201)

Time : 3 Hours]

[Max. Marks : 50

Instructions to the candidates:

- 1) *Attempt Q.No.1 or Q.No.2, Q.No.3 or Q.No.4, and Q.No.5 or Q.No.6.*
- 2) *Neat diagram must be drawn wherever necessary.*
- 3) *Figure to the right indicate full marks.*
- 4) *Assume suitable data wherever necessary*
- 5) *Use of non programmable scientific calculator is allowed.*

Q1) a) Elaborate on transient response of the CT. **[9]**

b) Explain PC based integrated software for short circuit studies. **[9]**

OR

Q2) a) Classify faults of synchronous generator, Explain earth fault protection of synchronous generator. **[9]**

b) State sampling theorem and explain the importance of sampling theorem in digital protection of power system. **[9]**

Q3) a) With help of lattice diagrams explain the principle of UHV-high speed relaying scheme based on travelling wave for high voltage long transmission line. **[8]**

b) With a help of R-X diagram compare mho relay and quadrilateral relay scheme for protection of transmission line. **[8]**

OR

P.T.O.

Q4) a) With a neat block diagram explain the hardware design of digital protection of transmission line. **[8]**

b) Explain amplitude comparison travelling wave relay scheme; how it is useful for protection of forward fault and reverse fault in transmission line. **[8]**

Q5) a) Describe importance of Relay setting and Relay co-ordination. **[8]**

b) Explain various feature involved in coordination of over current relays. **[8]**

OR

Q6) a) Explain multi zone protection scheme using distance relay. **[8]**

b) Elaborate on integrated operation of national power system. **[8]**

