Paper ID [EE306]

(Please fill this Paper ID in OMR Sheet)

B.Tech. (Sem. - 6th)

POWER SYSTEM - II (EE - 306)

Time : 03 Hours **Maximum Marks : 60**

Instruction to Candidates:

1) Section - A is **Compulsory.**
2) Attempt any **Four** questions from Section - B.
3) Attempt any **Two** questions from Section - C.

Section - A

Q1) *(10 x 2 = 20)*

a) Write the different types of faults on transformer.

b) Define the Fusing factor in fuse.

c) Draw the symbols for the surge arrester and describe its function.

d) Explain the term 'electro negativity' regarding SF_6 gas.

e) Write an Arrytonk equation.

f) Write about reactance relay.

g) Write the classification of distance relays.

h) Write the different types of substations depending on the construction features.

i) Write advantages and disadvantages of fuses.

j) What are the basic requirements of lightning arrester?

Section - B

(4 x 5 = 20)

Q2) Differentiate between (a) lightning arrester and lightning conductor (b) surge diverter and surge absorber.

Q3) Explain the aid of neat diagram of connections, the principle of operation of current balance type differential protection of generator against earth and interphase faults.

Q4) Define the term 'Static Relay'. Explain the basic components of static relay. Give advantages also.

Q5) Discuss the translay relay with the help of neat diagram.

Q6) What is the effect of unbalanced load on generator? Which part is damaged due to sustained unbalanced currents?

Section - C

(2 x 10 = 20)

Q7) With the help of neat sketches explain the protections of star-Delta power transformer against the following abnormal conditions:-

(a) Phase to phase fault (b) Earth fault.

(c) High voltage surges.

Q8) (a) Explain briefly the arc extinction process in SF_6 circuit breaker. Give advantages and disadvantages of SF_6 Circuit Breaker.

(b) Write about different types of fuses.

Q9) (a) In a static relay, when the level detector operates, a voltage of 100 V DC applied across RC circuit having R = 12kΩ, C = 1μF. Calculate time taken for the voltage across capacitor to reach threshold value of 60 V after operation of the level detector.

(b) Write about a single bus bar system.