



(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 121701

Roll No.

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B. Tech.

(SEM. VII) (ODD SEM.) THEORY
EXAMINATION, 2014-15

SWITCHGEAR AND PROTECTION

Time : 3 Hours]

[Total Marks : 100

- 1 Attempt any **FOUR** parts : **5×4=20**
- a) What are the different types of faults occurring in the power system?
 - b) Write the importance of ground wire
 - c) List out the different types of distance relay.
 - d) Write the merits of static relay.
 - e) Enumerate the concept of ring feeder
 - f) How do you quench an arc in a circuit breaker?
- 2 Attempt any **TWO** parts : **10×2=20**
- a) Explain the importance of protective schemes employed in power system.
 - b) Write the essential qualities of protection
 - c) Explain the protective schemes employed to protect formulating and switching effects

- 3 Attempt any **TWO** parts : **10×2=20**
- a) Enumerate the basic concepts of insulation coordination
 - b) Explain the construction and operating principle of over current relay with directional Scheme.
 - c) Describe the principles of :
 - (i) Negative sequence relay.
 - (ii) Under frequency relay.
- 4 Attempt any **TWO** parts : **10×2=20**
- a) With a neat schematic diagram, explain the protection of transformer with differential Protection scheme.
 - b) Write brief notes on :
 - (i) Generator protection.
 - (ii) Bus bar protection.
 - c) Explain the physics of arc phenomena and interruption.
- 5 Attempt any **TWO** parts : **10×2=20**
- a) Describe the operating principle of DC circuit breaker.
 - b) Write short notes on :
 - (i) Current chopping.
 - (ii) Interruption of capacitive current.
 - c) With a help of neat block diagram, explain the construction, operating principle and advantages of SF6 circuit breaker.