

## Switch Gear and Protection

### Important Questions

#### UNIT - 1

- 1) Explain resistance switching in detail with relevant diagrams and derive the expression of damping oscillation.
- 2) Define the phenomenon of current chopping in a circuit breaker. What measures are taken to reduce it?
- 3) Discuss different methods of interrupting the arc current in circuit breakers. Explain two main theories of current zero interruption.
- 4) Explain the reasons for initiation of electric arc during contact separation.
- 5) Explain various duties to be performed by a circuit breaker? Describe various methods of arc extinction.
- 6) Distinguish clearly between the recovery voltage and restriking voltage and also explain the significance of RRRV in the operation of a circuit breaker.
- 7) Explain the terms symmetrical breaking current, asymmetrical breaking current and making current as applied to circuit breaker.
- 8) Explain the operation of SF<sub>6</sub> circuit breaker with relevant sketch in a detailed manner.
- 9) Explain with a neat sketch the working of an ABCB.
- 10) Describe the construction, operating principle and application of vacuum circuit breaker. What are its merits over conventional type CB's.
- 11) Classify the types of circuit breakers.
- 12) Problems

#### UNIT - 2

- 1) Describe the principle of differential protection applied to a power transformer. What are the difficulties experienced and how are they overcome..
- 2) Explain a scheme of protection for failure of alternator excitation
- 3) Draw neatly the differential protection scheme of an alternator. Discuss its limitations and suggest remedies to overcome them.
- 4) Discuss the different transformer faults? What are the various protection schemes available for transformers
- 5) Explain the percentage differential relay protection for star/delta transformer with relevant diagram showing all essential details.
- 6) What is Buchholz relay? Discuss its working principle
- 7) Explain with neat sketch of the Merz-price protection for generator.
- 8) What are the abnormal conditions in a large synchronous generator against which protection is necessary?
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- 10) problems