

(3 Hours)

Total Marks: 80

- N.B.:-** (1) Question No.1 is compulsory.  
 (2) **Attempt** any **Three** questions out of remaining **Five** questions.  
 (3) Assume suitable data if necessary and justify the same.

- Q 1. Answer the following questions. **20**
- A) Explain cut off characteristics of HRC fuse.
  - B) Explain current chopping phenomenon.
  - C) What is primary and backup protection?
  - D) Explain construction and working of Isolator
- Q 2 a) Explain the working of induction disc relay with neat diagram. **10**
- Q 2 b) Discuss various parameters of protective relay. **10**
- Q 3 a) Explain with neat diagram the construction and working of SF<sub>6</sub> Circuit Breaker. **10**
- Q 3 b) Explain resistance switching used in arc interruption. **10**
- Q 4 a) Explain motor protection against single phasing with neat diagram. **10**
- Q 4 b) Explain TRV and RRRV. Derive an expression for restriking voltage. **10**
- Q 5 a) Explain the different Earth Fault Schemes and its application. **10**
- Q 5 b) Explain current grading and time grading relay system of protection of feeder. **10**
- Q 6 a) Compare static relays with electromagnetic relays. **10**
- Q 6 b) Draw and explain operation of Oil Circuit Breaker. **10**