

**NETTUR TECHNICAL TRAINING FOUNDATION**  
**DIPLOMA IN ELECTRICAL & ELECTRONICS ENGINEERING – CP23**  
**V SEMESTER REGULAR & SUPPLEMENTARY EXAMINATION-JAN 2023**

**Subject: Switchgear & Protection**  
**Subject Code: CP23501T**

**Total Time: 2 Hr.**  
**Total Marks: 50 Marks**

**PART B**

**1.0 ANSWER ANY EIGHT OF THE FOLLOWING**

**2\*8=16**

- 1.1 Why we need power system protection?
- 1.2 What is a fuse, explain?
- 1.3 What is the role of isolator in transmission line?
- 1.4 Name the types of bus bar protection
- 1.5 Write the classifications of circuit breaker
- 1.6 What are the two operating principles of relay?
- 1.7 Explain Current Chopping
- 1.8 What is Distance relay?
- 1.9 What is the need of a substation in power system?
- 1.10 Discuss mho Relay

**2.0 ANSWER ANY SIX OF THE FOLLOWING**

**3\*6=18**

- 2.1 Explain the working principle of fuse.
- 2.2 Why DC and AC circuit breakers are not interchangeable?
- 2.3 Explain the working of electromechanical relay with suitable diagrams
- 2.4 Explain Arc Phenomenon.
- 2.5 Explain the distance protection of transmission
- 2.6 Discuss the difference between surge arrester and surge absorber.
- 2.7 What do you understand by protection of transformers?
- 2.8 State the reasons for overheating of alternators

**3.0 ANSWER ANY FOUR OF THE FOLLOWING**

**4\*4=16**

- 3.1 What is circuit breaker? Describe its operating principle
- 3.2 Explain the solid-state relay
- 3.3 What is lightning? Describe the mechanism of lightning discharge.
- 3.4 Write the comparison between vacuum and SF6 circuit breaker
- 3.5 Explain the restricted earth fault protection of Transformer
- 3.6 Explain the protection against stator overheating

