

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**PDDC - SEMESTER-V EXAMINATION – WINTER 2015**

**Subject Code: X50904****Date: 08/12/2015****Subject Name: Switchgear****Time: 10:30pm to 1:00pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Discuss the process of initiation of arc in CB switching. **07**  
(b) Explain different methods for arc extinction in circuit breaker. **07**
- Q.2** (a) Explain the construction, principle of operation and application of a Minimum Oil circuit breaker(MOCB). **07**  
(b) Distinguish clearly between recovery voltage and restriking voltage and explain the significance of RRRV in the operation of circuit breaker. **07**
- OR**
- (b) Discuss the following term with reference to circuit breaking: **07**  
1) Symmetrical and Asymmetrical Breaking capacity  
2) Making Capacity  
3) Short time rating
- Q.3** (a) Write down technical notes on Current chopping **07**  
(b) Explain the properties of SF6 gas in recent developments of circuit breaker. **07**
- Q.3** (a) Explain the construction, working principle, merits and demerits of air blast circuit breaker. **07**  
(b) With neat diagram explain resistance switching. **07**
- Q.4** (a) Write down technical notes on Vacuum circuit breaker. **07**  
(b) Discuss the factors affecting restriking and recovery Voltage. **07**
- OR**
- Q.4** (a) Write down technical notes on SF6 circuit breaker. **07**  
(b) Explain the following duties which a circuit breaker has to perform: **07**  
(i) Interruption of terminal faults. (ii) capacitor switching.
- Q.5** (a) State the various tests carried out to prove the ability of a circuit breaker. Distinguish between type tests and routine tests. **07**  
(b) With neat diagram explain the principle of synthetic testing of circuit breaker. State its advantages. **07**
- OR**
- Q.5** (a) With neat circuit diagram explain the circuit for direct testing of CB. **07**  
(b) Explain working principle, construction, applications of HVDC circuit breaker **07**

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