

GUJARAT TECHNOLOGICAL UNIVERSITY
BE – SEMESTER – VI (OLD).EXAMINATION – WINTER 2016

Subject Code: 160803**Date: 22/10/2016****Subject Name: Switch Gear & Protection****Time: 10:30 AM to 01:00 PM****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) Explain the construction and working principle of Buchholtz Relay. **07**
(b) Discuss the working principle and construction of Air Blast Circuit Breaker. **07**
- Q.2** (a) Describe Arc Phenomena in case of circuit breaker and state arc interruption methods. **07**
(b) Explain the working principle and construction of vacuum Circuit Breaker **07**
- OR**
- (b) Write a short note on: SF₆ Circuit Breaker. **07**
- Q.3** (a) Differentiate instrument transformer and protective transformer. **07**
(b) Explain the function of Lightning Arrester. Explain the different types of Lightning Arrester. **07**
- OR**
- Q.3** (a) What is the need of Instrument Transformer in power system protection? Why CT secondary should never open circuit? **07**
(b) Explain the Ratio error and Phase angle error of current Transformer. **07**
- Q.4** (a) Write a technical note on Directional relay. **07**
(b) Explain Impedance, Reactance and Mho characteristic of distance relay. **07**
- OR**
- Q.4** (a) Explain differential protection and biased differential protection. **07**
(b) Draw the block diagram of static relay and explain advantages and disadvantages of static relays. **07**
- Q.5** (a) Explain any one scheme for protection of transformers. **07**
(b) Enlist various bus-bar protections. Explain any one in detail. **07**
- OR**
- Q.5** (a) Why neutral grounding is required? Explain any one method of neutral grounding. **07**
(b) Enlist different types of faults in generator and also discuss them in detail. **07**
