

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE SEM-VI Examination-Nov/Dec-2011

Subject code: 160803

Date: 25/11/2011

Subject Name: Switch Gear & Protection

Time: 10.30 am -1.00 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 Arc Phenomena in case of circuit breaker and state arc interruption methods also define Recovery, Restriking and Rate of Rise of Restriking voltage. **07**
- (b) Explain construction, working and advantages of air blast circuit breaker. **07**

- Q.2** (a) Explain Construction, Working Principle, Merits and Demerits of vacuum Circuit Breaker. **07**
- (b) Explain difference between instrument transformer and protective transformer. **07**

OR

- (b) Explain working principle of Current transformer and potential transformer. **07**

- Q.3** (a) Explain advantages and disadvantage of HRC fuse. **07**
- (b) Explain impedance relay with its mathematical equation and operating characteristics. **07**

OR

- Q.3** (a) State abnormalities and faults in case of generator and explain restricted earth fault protection scheme. **07**
- (b) Explain the protective schemes use for bus-bar. **07**

- Q.4** (a) Explain static relay verses electromagnetic relay. **07**
- (b) Explain single line to ground fault in an isolated neutral system. **07**

OR

- Q.4** (a) Explain percentage bias differential protection scheme for transformers. **07**
- (b) Draw the characteristic of IDMT relay and explain term TSM and PSM. **07**

- Q.5** (a) Explain Translay relay with necessary diagram. **07**
- (b) State the advantages of neutral grounding and explain reactance neutral grounding method. **07**

OR

- Q.5** (a) What is incipient fault in case of transformer? Explain working of buchholtz relay. **07**
- (b) Explain construction and working principle of Zinc –Oxide type lightning arrestor. **07**
