

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI • EXAMINATION – WINTER • 2014****Subject Code: 162403****Date: 01-12-2014****Subject Name: Switchgear and Fault Analysis****Time: 02:30 pm - 05:00 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 following terms : **07**  
(i) RRRV  
(ii) Recovery voltage  
(iii) Restriking voltage
- (b) Explain General Characteristics of Electrical Equipment. **07**
- Q.2** (a) Enlist circuit breaker ratings. Explain SF<sub>6</sub> in detail. **07**  
(b) Discuss Types of Isolator-Earth switches and their interlocking. **07**
- OR**
- (b) Discuss basic requirement of protection system, protection zones and types of protection. **07**
- Q.3** (a) Discuss methods employed for increasing arc resistance in AB CB. **07**  
(b) Give brief note on vacuum circuit breaker. **07**
- OR**
- Q.3** (a) Describe analysis of single line to ground fault in detail. **07**  
(b) Explain the selections and location of reactors in power system. **07**
- Q.4** (a) Discuss type of distance protection. And classification of distance relay. **07**  
(b) Analyze the L-L-G fault on unloaded generator. **07**
- OR**
- Q.4** (a) Describe characteristics of fuse material. Also explain advantages of HRC fuse. **07**  
(b) Explain Construction and Working of Electro-magnetic induction relay.. **07**
- Q.5** (a) Explain working principle of thermal relay. **07**  
(b) Discuss Induction type directional power relay. **07**
- OR**
- Q.5** (a) Discuss Classification of static relay. **07**  
(b) Explain microcontroller based digital relay. **07**

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