Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI • EXAMINATION – SUMMER • 2014

Subject Code: 160803 **Date: 23-05-2014**

Subject Name: Switch Gear and Protection

Time: 10:30 am - 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 CT- Saturation characteristic with necessary circuit diagram.	**07**
	(b)	Derive the necessary formula of Rate of Rise of Restriking Voltage. (RRRV)	**07**
Q.2	**(a)**	Explain the properties of SF6 Gas.	**07**
	(b)	Explain difference between instrument transformer and protective transformer.	**07**
		OR	
	(b)	Explain the construction and working principle of Air blast circuit breaker.	**07**
Q.3	**(a)**	Draw the characteristic of IDMT relay and explain term TSM and PSM.	**07**
	(b)	Explain Construction, Working Principle, Merits and Demerits of vacuum Circuit Breaker.	**07**
		OR	
Q.3	**(a)**	Explain impedance relay with its mathematical equation and operating Characteristics.	**07**
	(b)	Draw the block diagram of static relay and explain advantages and disadvantages of static relays.	**07**
Q.4	**(a)**	Explain Translay relay with necessary diagram.	**07**
	(b)	Explain differential protection and biased differential protection of transformer.	**07**
		OR	
Q.4	**(a)**	Explain advantages and disadvantage of HRC fuse.	**07**
	(b)	Explain construction and working principle of Zinc –Oxide type lightening arrestor.	**07**
Q.5	**(a)**	Explain different types faults in generator.	**07**
	(b)	Explain bus-bar protection in detail.	**07**
		OR	
Q.5	**(a)**	What is incipient fault in case of transformer? Explain working of buchholtz relay.	**07**
	(b)	Explain protection against lightening over voltages.	**07**

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