Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI- EXAMINATION – SUMMER 2016

Subject Code:160803 **Date:09/05/2016**

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 arc quenching properties of SF6 gas suitable in SF6 circuit breakers.	**07**
	(b)	Derive the necessary formula of Rate of Rise of Restriking Voltage. (RRRV).	**07**
Q.2	**(a)**	What do you mean by "Arc Interruption"? Explain in brief the two methods of arc interruption.	**07**
	(b)	What is the function of Fuse? Explain Current-Time Characteristic of Fuse?	**07**
		OR	
	(b)	Draw and Explain Inverse, Very Inverse and Extremely Inverse characteristic of Relay.	**07**
Q.3	**(a)**	Explain construction and working principle of Induction Disc type relay.	**07**
	(b)	Explain the faults and abnormalities of Generator. Explain the Restricted Earth Fault Protection of Generator.	**07**
		OR	
Q.3	**(a)**	Explain comparison between Static and Electromagnetic Relay.	**07**
	(b)	Explain difference between instrument transformer and protective transformer	**07**
Q.4	**(a)**	Explain the CT- Saturation characteristic with necessary circuit diagram.	**07**
	(b)	Why Neutral grounding is required? Explain any two methods of Neutral Grounding.	**07**
		OR	
Q.4	**(a)**	Explain Buchholtz relay protection.	**07**
	(b)	Explain differential protection and biased differential protection.	**07**
Q.5	**(a)**	Explain the Resistance, Reactance and Mho type characteristic of Distance Relay.	**07**
	(b)	Explain the function of Lightning Arrester. Explain the different types of Lightning Arrester.	**07**
		OR	
Q.5	**(a)**	Explain the zone protection of transmission Lines by Distance Relay.	**07**
	(b)	Draw the characteristic of IDMT relay and explain term TSM and PSM.	**07**

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