Seat No.: _____ Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII (NEW) - EXAMINATION – SUMMER 2018

Subject Code: 2182407 **Date: 07/05/2018**

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.**

			MARKS
Q.1	**(a)**	Explain RRRV in brief.	**03**
	(b)	List the advantages of static relay.	**04**
	(c)	Explain the construction and working of air break circuit breaker with neat diagram.	**07**
Q.2	**(a)**	Explain any one methods of neutral grounding.	**03**
	(b)	Explain attracted armature relay.	**04**
	(c)	Explain air-blast circuit breaker with necessary diagrams.	**07**
		OR	
	(c)	Explain auto-reclosing in power system protection.	**07**
Q.3	**(a)**	List the advantages of SF6 circuit breaker.	**03**
	(b)	Explain induction disc relay.	**04**
	(c)	Explain the construction and working principle of Buchhoz relay.	**07**
		OR	
Q.3	**(a)**	Derive the equation of restriking voltage.	**03**
	(b)	Discuss single line to ground fault.	**04**
	(c)	Explain Inter turn fault protection scheme for generator.	**07**
Q.4	**(a)**	Explain the function of isolator.	**03**
	(b)	Compare induction disc and induction cup type relays.	**04**
	(c)	Write a short note on Directional relay.	**07**
		OR	
Q.4	**(a)**	Draw different characteristics of distance relay.	**03**
	(b)	Explain percentage differential protection of transformer.	**04**
	(c)	Explain carrier current based transmission line protection scheme with block diagram.	**07**
Q.5	**(a)**	Draw the schematic diagram of single phase sub-station.	**03**
	(b)	Discuss current chopping with relevant diagrams.	**04**
	(c)	Difference between statics relay v/s electromagnetic relay.	**07**
		OR	
Q.5	**(a)**	Explain the following term: (i) Switch-gear, (ii) Lightning arrester and (iii) Earthing switch	**03**
	(b)	Explain the protection of generator against stator and rotor faults.	**04**
	(c)	Explain the construction and working principle of zinc oxide lightning arrester.	**07**