Seat No.:	Enrolment No.

Subject Code: 162403

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

BE – SEMESTER – VI (OLD).EXAMINATION – WINTER 2016

Date: 22/10/2016

	Subjec	ct Name: Switch Gear & Fault Analysis	
	Time:	10:30 AM to 01:00 PM Total Marks: 70	
		tions:  1. Attempt all questions.  2. Make suitable assumptions wherever necessary.  3. Figures to the right indicate full marks.	
Q.1	(a) (b)	Explain the selection criteria and locations of reactors in power system.  Define fault in power system. Enlist the causes of fault. Enumerate the various types of fault. How can you minimize the fault?	07 07
Q.2	(a)	Explain the following term:  (i) Switch-gear (ii) Control-gear (iii) Isolator (iv) Circuit Breaker  (v) Lightning Arrester (vi) Earthing Switch (vii) relay	07
	<b>(b)</b>	Why protection system are necessary in switchgear? Explain fault clearing process with neat & clean diagram.	07
		OR	
	<b>(b)</b>	Explain Auto-reclosure.	<b>07</b>
Q.3	(a) (b)	Discuss sub-station equipment's and its functions.  Explain the construction and working of HRC fuse. Enumerate the merits and demerits of HRC fuse.	07 07
		OR	
Q.3	(a) (b)	Explain Resistance Switching and Current Chopping with neat & clean sketch. Explain the current interruption in ACCB.	07 07
Q.4	(a) (b)	Illustrate Vacuum Circuit Breaker.  Discuss SF <sub>6</sub> circuit breaker with necessary diagram.  OR	07 07
Q.4	(a) (b)	Analyze the L-L-G fault on unloaded generator.  Discuss single line to ground fault in detail.	07 07
Q.5	(a)	Explain electromagnetic induction disc relay. Also explain plug setting & time setting in induction disc relay.	07
	<b>(b)</b>	Discuss classification of static relay.	<b>07</b>
		OR	
Q.5		Explain microcontroller based digital relay.	07
	<b>(b)</b>	Explain the working principle of thermal relay with the help of neat sketch.	<b>07</b>

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