Seat No.:	Enrolment No.

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

PDDC - SEMESTER-VII EXAMINATION - SUMMER 2016

Su	Subject Code: X70901 Date: 10/05/2		016
Ti	•	Name: Power System Protection 2:30 PM to 05:00 PM Total Mark	s: 70
IIIs	1.	Attempt all questions.  Make suitable assumptions wherever necessary.	
Q.1	(a)	What do you mean by primary and backup protection? Discuss the essentia	1 <b>07</b>
	<b>(b)</b>	qualities of the protective system.  Explain the advantages of static relay over electromagnetic relay. Define relatione and circuit breaker time.	y <b>07</b>
Q.2	(a) (b)	Explain how plug setting and time setting can be done in induction relay. Explain construction and principle of operation of attracted armature typerelay.	07 e 07
		OR	
	<b>(b)</b>	Discuss the advantages of using carrier protection scheme of line protection over other methods.	n <b>07</b>
Q.3	(a)	Explain with suitable example and diagram the unit type carrier based directional protection.	d <b>07</b>
	<b>(b)</b>	Explain the distance protection used for long transmission line. <b>OR</b>	07
Q.3	(a)	Explain the Buchholz's relay.	07
Q.	(b)	What is single phasing? What are various effects of single phasing on polyphase motors?	
Q.4	(a)	Explain the principle of Merz price protection for generator with a neat sketch State its drawbacks.	. 07
	<b>(b)</b>	Explain the principle of differential protection system applied to powe transformer.	r <b>07</b>
		OR	
Q.4	(a)	Explain the working of a digital relay with neat block diagram.	07
	<b>(b)</b>	Explain the advantages and disadvantages of digital relay over conventionarelay.	1 <b>07</b>
Q.5	(a)	Explain the microprocessor based distance (Impedance) relay with suitable block diagram.	e <b>07</b>
	<b>(b)</b>	What are the different tests are carried out on the relay? Discuss any one is detail.	n <b>07</b>
		OR	
Q.5	(a) (b)	Discuss the differential scheme for bus-zone protection with a neat sketch. What is meant by loss of excitation in a generator / What protection is used against it?	07 d 07

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