Seat No.:	Enrolment No.

## GUJARAT TECHNOLOGICAL UNIVERSITY PDDC - SEMESTER-VII • EXAMINATION – WINTER • 2014

Subject Code: X 70901 Date: 28-11-2014 **Subject Name: Power System 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. 0.1 What is the need of protection in power system? What is primary protection and **07** (a) what is auxiliary protection? Explain with one example. **(b)** What are the basic elements of protective system? Explain importance of each 07 element. What is the role of C.T and P.T in protection? Which class of CT is used for **Q.2 07** (a) protection purpose? Why? Explain balance beam relay. What are the limitations of balance beam relay? **(b) 07** OR What do you mean by operating torque and restraining torque in relay? What is 07 **(b)** need of restraining torque? How can we provide restraining torque to relay? **Q.3** (a) Explain bucholz relay. What are the demerits of bucholz relay? **07** Explain differential protection used for star/delta transformer with circuit **(b) 07** diagram. OR **Q.3** Why differential protection is known as unit protection? What are limitations of **07** (a) differential protection? Why current injection test is performed on relay? How is this test conducted? 07 **(b)** 0.4 Explain carrier blocking and carrier acceleration used in distance protection (a) 07 scheme. **(b)** Explain carrier current protection is used for transmission line protection with 07 help of single line diagram. OR Explain Generator and Generator transformer overall protection scheme. **Q.4** 07 (a) **(b)** Which type of protections is provided to large induction motor? **07 Q.5** Explain restricted earth fault protection is used for Generator. 07 (a) What are differences of differential protection used for transformer and 07 **(b)** generator? OR

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Explain induction disc type relay with its construction and working.

What are the advantages of static relay over electromagnetic relay?

**Q.5** 

(a)

**(b)** 

**07** 

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