B. Tech. Sem –VIII (Electrical Engg.) (2014 COURSE) (CBCS) :
SUMMER - 2019
SUBJECT: ELECTIVE –IV ADVANCED PROTECTIVE RELAYING

Day: Thursday
Date: 30/05/2019

S-2019-2898

Time: 02.30 PM TO 05.30 PM
Max Marks: 60

N.B.:

1) All Questions are **COMPULSORY**
2) Figures to the right indicate **FULL** marks
3) Use of **NON-PROGRAMMABLE** Calculator is **ALLOWED**.

Q.1 **(a)** Explicate the concept of power system protection. Also compare between various sections of system protections. **(05)**

(b) Explain the requirement of protection scheme. State the different components of protection system. **(05)**

(OR)

Q.1 **(a)** Explicate the protection scheme availed for the instrument transformers. **(05)**

(b) What are the functions of protective relaying? Compare between primary protection and secondary protection. **(05)**

Q.2 **(a)** What is Numerical Relay? Explain it with a block diagram. **(05)**

(b) Differentiate between Mann-Morrison Technique and Differential Equation Technique. **(050**

(OR)

Q.2 **(a)** Explain with block diagram Data Acquisition System (DAS). **(05)**

(b) Give the Algorithm of Numerical Relay for over-current protection. **(05)**

Q.3 **(a)** Compare between phase and magnitude comparator. **(05)**

(b) Explain how over-current and under-voltage protection is done by using comparator relay. **(05)**

(OR)

Q.3 **(a)** In what respect static relay comparators are more convenient than electromagnetic comparators? **(05)**

(b) How are the composite signals derived in a system to be fed to the comparator? **(05)**

P.T.O.

Q.4	**(a)**	Explicate the Algorithm of Microprocessor Based Distance relay.	**(05)**
	(b)	How SCADA interfacing and metering is done with microprocessor based relays?	**(05)**

(OR)

Q.4	**(a)**	Explain the generalized interface of distance relay.	**(05)**
	(b)	Draw and explain the block diagram of microprocessor based over-current protection scheme.	**(05)**
Q.5	**(a)**	Explicate the following terms: (i) Artificial Neural Network (ANN) (ii) Fizzy logic	**(05)**
	(b)	Explain the applications of artificial intelligence in power system protection.	**(05)**

(OR)

Q.5	**(a)**	Draw and explain the Neural Network based distance relay.	**(05)**
	(b)	Explain the applications of ANN for Generation Protection.	**(05)**
Q.6	**(a)**	Explain the use of Digital computers in power systems.	**(05)**
	(b)	Explain how setting of relay is done by using digital computers.	**(05)**

(OR)

Q.6	**(a)**	Explain the use of digital computers in Network Automation.	**(05)**
	(b)	Explain how the calibration of relay is done by using digital relay.	**(05)**

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