Code No: B4902 **NR**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.TECH II SEMESTER EXAMINATIONS, APRIL/MAY 2012
ADVANCED POWER SYSTEM PROTECTION
(ELECTRICAL POWER ENGINEERING)

Time: 3hours **Max. Marks: 60**

Answer any five questions
All questions carry equal marks

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1.a) What is the purpose of back up protection and explain the types of relays used for back up protection.
b) What are the advantages and disadvantages of static relays?

2.a) With the help of block diagram explain the principle of operation of electromagnetic definite time over current relay.
b) Draw the circuit diagram of static instantaneous over current relay. Also explain its operation.

3. What is impedance relay? Describe how it is realized using
a) Electromagnetic principle b) Static circuits

4. What is carrier current protection? Explain the phase comparison scheme of carrier current protection with a neat diagram. What are its merits and demerits?

5. Derive generalized mathematical model of distance relays for digital protection.

6. Explain the microprocessor interfacing with over current relay.

7. Draw the block diagram of microprocessor based impedance relay and explain its operation. Also draw the flow chart.

8. Write short notes on the following:
a) Analog to Digital converter
b) Offset mho relays
c) Digital distance relaying algorithms

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