Code No: C5302

R09

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD M.TECH I SEMESTER EXAMINATIONS, APRIL/MAY-2012 ADVANCED POWER SYSTEM PROTECTION (POWER SYSTEM CONTROL & AUTOMATION)

Time: 3hours Max.Marks:60

Answer any five questions All questions carry equal marks

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- 1.a) Define Static relay? Mention the advantages and disadvantages of static relays.
 - b) Explain the following terms related to power system protection
 - (i) Over current relays time current characteristic (i
 - (ii) current setting

(iii) Time setting

- (iv) plug setting
- 2. Explain the principle of duality between the amplitude and phase comparators with neat Sketch.
- 3. Explain the principle of operation of the following with neat block diagram.
 - a) Instantaneous over-current relay
 - b) Directional over-current relay
- 4. Realize angle impedance relay and reactance relay using amplitude and phase comparators.
- 5.a) Explain the various types of switched distance schemes used in power system protection.
 - b) Explain the different types Pilot relaying schemes
- 6. Explain the principle of operation of the following Microprocessor based relays with flowchart and block diagram.
 - a) Over current relays
- b) Directional Relay
- 7. Explain the generalized interface for distance relays by means of Digital relying algorithm.
- 8. Derive the generalized mathematical expression for distance relays and realize the various types of distance relays using microprocessor.
