

**B.E/ B.Tech (FULL TIME) DEGREE EXAMINATION NOV/DEC 2012****Electrical and Electronics Engineering****EE 9036 PROTECTION AND SWITCHGEAR****V SEMESTER****Time: 3 Hrs****Answer all Questions****Max. Marks: 100****Part –A (10 X 2 = 20)**

- 1) Give % distribution of faults in Various Elements of Power system.
- 2) Classify the Protective relays based on their function
- 3) What are the merits of Induction cup construction over induction disc construction?
- 4) What are the advantages of static relays over electromagnetic relays?
- 5) An 11 kV, 200MVA alternator is provided with differential protection. The % of winding to be protected against phase to ground fault is 85 %.The relay is set to operate when there is 20% out of balance current. Determine the value of the resistance to be placed in the neutral to ground connection.
- 6) What are the causes for the unbalanced conditions in stator currents of an alternator?
- 7) What is Arc Voltage?
- 8) What are the parameters influence the arc resistance?
- 9) List out the important components common to most of the circuit breaker?
- 10) What is the function of an explosion pot in an oil circuit breaker?

Part –B (5 X 16 = 80)

- 11) a) i) Describe the Zero Current Interruption related theories.[8]
ii) Discuss the following phenomenon of CB [8]
 - i) Resistance switching
 - ii) Restriking voltage