

R09**Code: 9A02703****B.Tech IV Year I Semester (R09) Supplementary Examinations June 2016****SWITCH GEAR & PROTECTION**

(Electrical and Electronics Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

- 1 (a) What is the rate of rise of restriking voltage (RRRV)? Give mathematical relations and discuss.
(b) Discuss principles of arc interruption and recovery, restriking voltages.
- 2 (a) Explain operation of SF6 circuit breaker.
(b) Explain working of Air Blast circuit breaker.
- 3 (a) Explain basic requirements and relays. Discuss differential relay.
(b) Explain universal torque equation.
- 4 (a) Explain working of IDMT static relay.
(b) With suitable diagram, explain working of over current relay.
- 5 (a) Explain how to protect generators against stator faults rotor faults.
(b) Discuss inter-turn fault protection in generators.
- 6 (a) Explain working of Buchholtz relay with neat diagram.
(b) Explain percentage differential protection in transformers.
- 7 (a) Explain protection of radial and ring main feeders.
(b) Discuss protection of transmission lines using carrier current protection.
- 8 (a) Discuss various situations which causes over voltages in power system utility.
(b) Explain how to protect power systems utility against lightning and over voltages.
