

B.Tech Sem – VI (2007 Course) (Electrical Engg.) : WINTER - 2018

SUBJECT: SWITCHGEAR & PROTECTION

Day: Wednesday
Date: 14/11/2018

W-2018-2853

Time: 10.00 AM TO 01.00 PM
Max Marks: 80

N.B. :

- 1) **Q.No.1 and Q.No.5 are COMPULSORY.** Out of the remaining questions attempt **ANY TWO** questions from each section.
- 2) Answers to both the sections should be written in **SEPARATE** answer books.
- 3) Draw neat and labeled diagrams **WHEREVER** necessary.
- 4) Figures to the right indicate **FULL** marks.
- 5) Assume suitable data if necessary.

SECTION – I

- Q.1** a) Compare between MCB and MCCB. [05]
b) With neat diagram explain the resistance switching. [05]
c) Draw the neat diagram of induction cup type relay and explain its working. [04]
- Q.2** a) What are the various faults which may takes place on power system? How these faults are categories ? [07]
b) Explain the various characteristics of the protective gears. [06]
- Q.3** a) With neat diagram explain the working of SF₆ circuit breaker. [07]
b) Explain the following terms in detail : RRRV, restriking voltage, recovery voltage. [06]
- Q.4** a) With neat diagram explain the working of directional power relay. [06]
b) With neat block diagram explain the working of microprocessor based directional relay. [07]

SECTION – II

- Q.5** a) What are the different faults may takes places on three phase alternator? [05]
b) Explain the protection of 3 phase induction motor against over voltage. [05]
c) What do you mean by insulation coordination ? Explain in detail. [04]
- Q.6** a) With neat diagram explain the protection scheme against inter turn fault of 3 phase transformer. [07]
b) With neat diagram explain the protection of 3 phase alternator against earth fault. [06]
- Q.7** a) Explain the carrier pilot scheme of protection of 3 phase transmission line. [07]
b) With neat diagram explain the protection of bus bar. [06]
- Q.8** a) Explain various methods of neutral earthing. [07]
b) With neat diagram explain the operation of Thyrite type lightning arrester. [06]
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