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Total Number of Pages: 02

B.TECH
PCEE4402

8th Semester Regular / Back Examination 2015-16
POWER SYSTEM PROTECTION
BRANCH(S): EEE, ELECTRICAL

Time: 3 Hours

Max Marks: 70

Q.CODE:W132

Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

- Q1** Answer the following questions: **(2 x 10)**
- a) What is surge absorber? Explain How surge absorber differ from surge diverter?
 - b) What type relay is best suited for long distance very high voltage transmission lines?
 - c) State the advantages and disadvantage of electromagnetic relays.
 - d) Give advantages of neutral grounding.
 - e) Derive expressions for restriking voltage and RRRV
 - f) What are the various faults that would affect an alternator?
 - g) Give the limitations of Merz Price protection.
 - h) What are the advantages of static relay over electromagnetic relay?
 - i) Write any two properties of contact material used in vacuum circuit breaker?
 - j) What is isolator and explain its requirements.
- Q2**
- a) Differentiate between primary and backup protection. **(5)**
 - b) List various building blocks that constitute the static relay and give brief description about each of the blocks. **(5)**
- Q3**
- a) What are the physical chemical and dielectric properties of SF₆ Gas. **(5)**
 - b) What is the principle of distance relaying? Explain with neat diagram. Definite distance relay. **(5)**
- Q4** Describe the construction and principle of operation of induction type directional over-current relay. Explain IDMT characteristics and how they are obtained in an induction type relay. **(10)**
- Q5**
- a) Explain with neat circuit diagram the fault bus protection scheme. **(5)**
 - b) A 3phase transformer of 220/11000 line volts is connected in Y/Δ. The protective transformers on 220 Volts side have a current ratio of 600/5 Amps. What should be the CT ratio on 11000 Volts side?. **(5)**

