

[Total No. of Printed Pages:2] **CODE NO:- Z-30**
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E(EEP/ EEE) Year Examination – MAY-2015
Power System Protection
(Revised)

[Time: Three Hours]

[Max. Marks: 80]

“Please check whether you have got the right question paper.”

- N.B**
- i) Q.1 and Q.6 are compulsory.
 - ii) Solve any two questions from section A & B excluding compulsory questions.
 - iii) Assume suitable data.

SECTION -A

- Q.1 Attempt any five 10
- a) List the basic requirements of protective relay.
 - b) What are the advantages of static relays?
 - c) Compare static & electromagnetic relay.
 - d) What is relay?
 - e) Differentiate betⁿ C.T & P.T.
 - f) Write an application of electromagnetic relays.
 - g) How the transformer is protected by merz-price protection.
- Q.2 A) Describe the essential qualities of a protective relaying. 07
 B) Describe the construction and operation of an electromagnetic relay with neat diagrams. 08
- Q.3 A) Explain with the help of neat diagrams the construction and working directional power relay. 07
 B) What is a static relay? What are the merits and demerits of static relays over electromagnetic relays also mention it's applications. 08
- Q.4 A) Describe the operating principle, constructional features and area of applications of directional relay. 08
 B) Write about the classifications of relays. 07
- Q.5 A) Write note on negative sequence relays. 05
 B) Explain percentage differential relay protection for harmonic restrain. 05
 C) Explain Merz-price protection for a transformer. 05

SECTION- B

- Q.6 Attempt any five. 10
- a) Write the applications of C. B.
 - b) How do you classify the C. B?
 - c) What are the ratings of a C. B?
 - d) What is Peterson coil? What protective functions are performed by this derive?
 - e) Give the advantages of an air blast C. B
 - f) Write classifications of circuit breaker.
 - g) What is meant by recovery voltage?
- Q.7 A) Explain in detail the constructional features, principle of working, advantages and applications of SF₆ C.B with neat diagram. 08
 B) With a neat block diagram, explain the construction, operating principles and merits of air blast C.B. 07
- Q.8 A) Briefly explain the various methods of over voltage protection of a over head transmission line 08
 B) Explain behavior of bus bar differential scheme for internal and external fault. 07
- Q.9 A) Discuss the active recovery voltage. 05
 B) Discuss the Rate of Rise of Restriking vtg. 05
 C) Explain MHO Relay characteristics on the R-X diagram. Discuss the range setting of various distance relays placed on particular location. 05
- Q.10 A) Write note on ELCB. 05
 B) Describe the active recovery voltage in a3-φ circuit. 05
 C) Explain phenomenon of current chopping in C.B & what is effect current chopping on C.B as well as on the system? 05