

SUBJECT CODE:- 275
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(EEP/EEE) Examination Nov/Dec 2015
Power System Protection
(Revised)

[Time: Three Hours]

[Max. Marks: 80]

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

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

Section A

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| Q.1 | Attempt any five | 10 |
| | a) Write the classification of Relays. | |
| | b) Write requirements of protective relaying. | |
| | c) Differentiate between current transformer & potential transformer. | |
| | d) Write classification of protective schemes. | |
| | e) Write an applications of electromagnetic relays. | |
| | f) Define switchgear & explain some types of switchgear? | |
| | g) Write the characteristics of electromagnetic relays. | |
| Q.2 | a) Explain construction and working of electromagnetic relay. | 07 |
| | b) Explain, working, characteristics and application of differential relay. | 08 |
| Q.3 | a) Explain Merz-price protection for transformer. | 07 |
| | b) Explain percentage differential relay protection for harmonic restrain. | 08 |
| Q.4 | a) Derive the universal torque equation. | 08 |
| | b) Describe protection for single phasing fault in induction motor. | 07 |
| Q.5 | a) Write effect of fault on alternator | 05 |
| | b) Write short note on static relay | 05 |
| | c) write short note on earth fault protection | 05 |

Section-B

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|-----|--|----|
| Q.6 | Attempt any five | 10 |
| | a) Distinguish between recovery voltage & restriking voltage. | |
| | b) Write the applications of circuit breaker | |
| | c) What are basic requirement of C.B. | |
| | d) Write the operational difference between fuse and circuit breaker. | |
| | e) List out various methods of arc interruption. | |
| | f) Enumerate the significance of backup protection. | |
| | h) Write the effects of power system faults. | |
| Q.7 | a) With a neat block diagram, explain the operating principle of Peterson coil. | 08 |
| | b) Explain MHO relay characteristics on the R-X diagram. Discuss the range setting of various distance relays placed on particular location. | 07 |
| Q.8 | a) Explain carrier aided protection of transmission line scheme. | 07 |

	b) Discuss the selection of C.B for different range of system voltages.	08
Q.9	a) With a neat block diagram. Explain the construction, operating principle and applications of SF ₆ C.B? What are its advantages over other types of C. B.	10
	b) Discuss the active recovery voltage in 3- ϕ circuit.	05
Q.10	a) Discuss the rate of rise of restriking voltage (RRRV) in detail.	05
	b) Explain construction & working principle of air break C. B.	05
	c) Write short note on ELCB.	05