

Reg. No. :

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**Question Paper Code : 71785**

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2017.

Seventh Semester

Electrical and Electronics Engineering

EE 6702 – PROTECTION AND SWITCHGEAR

(Regulations 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State the types of fault.
2. Give the difference between circuit breaker and switch.
3. Why a shading ring is provide in a induction disc relay?
4. What are the difficulties of differential protection?
5. What is the need for instrument transformer?
6. What are the limitations of buchholz relay?
7. Define sampling theorem.
8. Write about numerical transformer differential protection.
9. Define restriking voltage.
10. What is rupturing capacity?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Discuss in detail about different protection schemes.  
(ii) Explain Arc suppression coil earthing with neat diagram.

Or

- (b) Explain how fault current is calculated using symmetrical components.

12. (a) Explain the construction and operating principle of impedance type distance relay with R-X Diagram.

Or

- (b) With the necessary sketches discuss in detail about electromagnetic attraction type relays relay.
13. (a) Give a detailed explanation for protection of transformer using differential protection which includes associated faults.

Or

- (b) Give a detailed explanation about CTS and PT's and its application to power system.
14. (a) Explain the block diagram of numerical relay with necessary diagram.

Or

- (b) With a neat sketch discuss in detail about the synthesis of reactance relay using phase comparator.
15. (a) Write short notes on :
- (i) Current chopping
  - (ii) Interruption of capacitive current.

Or

- (b) With a neat diagram explain the construction and working principle of Air Blast circuit breaker and Vacuum circuit breaker.



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