

**Reg. No. :**

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**Question Paper Code: 31355**

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2016

Fifth Semester

Electrical and Electronics Engineering

01UEE505- PROTECTION AND SWITCHGEAR

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Discuss the need for protective scheme.
2. What are the types of faults?
3. Compare static and electromagnetic relay.
4. Write the conditions for the operation of directional impedance relay.
5. Define the term burden on CT.
6. Why the secondary of a Current Transformer should not be open circuited?
7. What is meant by static relay?
8. Mention the advantages of static over current relay.
9. What are the basic requirements of a circuit breaker?
10. Write the types of circuit breakers.

PART - B (5 x 16 = 80 Marks)

11. (a) Explain in detail the nature and causes of faults. (16)

Or

(b) What do you understand by zones of protection? Discuss various types of protection zones. (16)

12. (a) With the neat diagram explain the construction and operation of an induction type directional over current relay. (16)

Or

(b) Briefly explain the differential relay, negative sequence relay with neat diagram. (16)

13. (a) Explain with a neat diagram the application of Merz price circulating current principle for the protection of the alternator. (16)

Or

(b) Explain in detail the abnormal running condition of generator. (16)

14. (a) List out the numerical relays and describe it briefly. (16)

Or

(b) Explain the distance protection scheme for transmission line. (16)

15. (a) Demonstrate in detail the current chopping and derive re-striking voltage. (16)

Or

(b) With neat sketch, explain the SF<sub>6</sub> circuit breakers. (16)

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