Reg. No. : | | | | | | | | | | |

Question Paper Code: 45305

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Fifth Semester

Electrical and Electronics Engineering

14UEE505 - PROTECTION AND SWITCH GEAR

(Regulation 2014)

Duration: 1:15hrs Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. Switchgear is an apparatus

   (a) Used for switching, controlling and protecting the electrical circuits and equipments
   (b) It detects the faults only
   (c) It corrects the faults only
   (d) all the above

2. For symmetrical network, the neutral current is

   (a) Zero (b) infinity (c) Maximum (d) None of these

3. The operating time for a high speed relay is

   (a) 1 sec (b) 1 milli sec (c) 1 to 2 cycles (d) 10 to 15 cycles

4. In distance relay the operation depends upon

   (a) voltage (b) current
   (c) Fault voltage to current ratio (d) All the above

5. Which section of a power system generally suffers from more faults as compared to the remaining?

   (a) Generators (b) Transformers
   (c) To Transmission lines (d) Underground cables

6. A large size alternator is protected against overloads by providing

(a) over current relay (b) Temperature sensitive relay
(c) Thermal relay (d) None of these

7. Protective relays can be designed to respond to _____

(a) Light intensity, impedance (b) Temperature, resistance, reactanc
(c) Voltage and current (d) All of these

8. Moving parts are absent in

(a) Static relay (b) Electromagnetic relay
(c) Induction type relay (d) Alternator

9. For extra high voltage lines which circuit breaker is preferred?

(a) Bulk oil circuit breaker (b) Vacuum circuit breaker
(c) SF6 gas circuit breaker (d) Minimum oil circuit breaker

10. The voltage appearing across the contacts after opening of the circuit breaker is called

(a) Recovery voltage (b) Surge voltage
(c) Operating voltage (d) Arc voltage

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Explain arc suppression coil in detail. (8)

12. Write short note on (i) Modified impedance relay and (ii) Reactance relay. (8)

13. Explain the factors causing difficulty in applying Merz-price circulating current principle to a potential transformer and how are they overcome. (8)

14. Mention the advantages and limitations of static relay. (8)

15. Explain the construction, operating principle and application of minimum oil circuit breaker. (8)