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

# Question Paper Code: 56302

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

Sixth Semester

Electrical and Electronics Engineering

15UEE602–PROTECTION AND SWITCH GEAR

(Regulation 2015)

Duration: 1.15 hrs Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

**(Answer any six of the following questions)**

1. The material used for fuse must have CO1-R

   (a) The low melting point and high specific resistance

   (b) The low melting point and low specific resistance

   (c) High melting point and low specific resistance

   (d) Low melting point and any specific resistance

2. When a line-to-line fault occurs, the short circuit current of an alternator depends upon its CO1-R

   (a) Sub-transient reactance (b) Transient reactance

   (c) Synchronous reactance (d) Short circuit reactance

3. Directional relays are based on the flow of CO2-R

   (a) Power (b) Current (c) Voltage Wave (d) None of the above

4. A differential relay measures the vector difference between CO2-R

   (a) Two current (b) Two voltage (c) Two similar quantities (d) Any of the above

5. Large internal faults are protected by CO3-R

   (a) Merz price percentage differential protection

   (b) Mho and ohm relays

   (c) Horn gaps and temperature relays

   (d) Earth fault and positive sequence relays

6. A transmission line is protected by CO3-R

(a) Time graded and current graded over current protection

(b) Distance Protection

(c) Both 1 and 2

(d) None of the above

7. Basic relay connection requirement is that the relay must operate for CO4-R

(a) Load (b) Internal faults (c) Both (a) and (b) (d) None of these

8. Instantaneous relay should operate within CO4-R

(a) 0.0001 sec (b) 0.001 sec (c) 0.01 sec (d) 0.1 sec

9. The arcing contacts in a circuit breaker are made of CO5-R

(a) Copper tungsten alloy (b) Porcelain

(c) Electrolytic copper (d) Aluminum alloy

10. SF6 gas CO5-R

(a) Is yellow in color (b) Is lighter than air

(c) Is nontoxic (d) Has pungent small

PART – B (3 x 8= 24 Marks)

**(Answer any three of the following questions)**

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| 11. | Describe the different faults in power system. Which of these are more frequents? | CO1-App | (8) |
| 12. | Discuss the construction and operating principle of over current relay with directional scheme. | CO2-App | (8) |
| 13. | Compare CT and PT. What are the applications of CT and PT? | CO3-Ana | (8) |
| 14. | Illustrate and Explain with neat Block diagram of Numerical relays. | CO4-U | (8) |
| 15. | Derive an expression for Restriking voltage and rate of rise of restriking voltage. | CO5-U | (8) |

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