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Question Paper Code: 54304

B.E. / B.Tech. DEGREE EXAMINATION, AUGUST 2021

Fourth Semester

Electrical and Electronics Engineering

15UEE404- TRANSMISSION AND DISTRIBUTION

(Regulation 2015)

Duration: 1:45 hour

Maximum: 50 Marks

PART A - (10 x 2 = 20 Marks)

(Answer any ten of the following questions)

1. What is ring main distribution system?
2. What are the types of DC distributors?
3. Summarize the advantages of bundled conductors.
4. Define skin effect.
5. Define surge impedance.
6. Define Ferranti effect.
7. Summarize the points that an insulator must have the properties.
8. Label the parts of a cable.
9. What is meant by stringing chart?
10. Quote the factors to be considered before selecting the site for a substation.
11. What are the differences between transmission and distribution?
12. What are the advantages of HVDC transmission?
13. What is transposition of conductors?
14. Write the expression for capacitance of three phase line, when the conductors are unsymmetrically spaced.
15. What are the methods of neutral grounding?

PART – B (3 x 10= 30 Marks)

(Answer any three of the following questions)

16. Example with a neat layout of the modern EHV system ? What is the highest voltage level available in Tamilnadu and India for EHV transmission system? CO1- U (10)
17. A single phase 10 km line is 8 m above the ground. The diameter of the conductor is 2 cm and is separated by 4 km horizontally. Find CO2- U (10)
- (i) Capacitance between conductors
 - (ii) Capacitance between phase and neutral plane
18. A single phase 11 KV line with a length of 15 km is to transmit a power of 500 KVA. The inductance reactance of the line is 0.5 ohm / km and the resistance is 0.3 ohm / km. Calculate the CO3- U (10)
- (i) Efficiency and
 - (ii) Regulation of the line for 0.8 lagging power factor.
19. A suspension string has 3 units. Each unit can withstand a maximum voltage of 11 KV. The capacitance of each joint and metal work is 20 percent of the capacitance of each disc. Find CO4- U (10)
- (i) Maximum line voltage for which the string can be used and
 - (ii) String efficiency
20. Make a short note on the following topics: CO5- U (10)
- (i) Indoor substation