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Question Paper Code: 41343

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

Fourth Semester

Electrical and Electronics Engineering

14UEE403 - TRANSMISSION AND DISTRIBUTION

(Regulation 2014)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. A feeder in a transmission system feeds power to
 - (a) Distributors
 - (b) Generating stations
 - (c) Service mains
 - (d) None of these
2. A three phase four wire system is commonly used on
 - (a) Primary transmission
 - (b) Secondary transmission
 - (c) Primary distribution
 - (d) Secondary distribution
3. Overhead lines generally use
 - (a) Copper conductors
 - (b) All aluminum conductors
 - (c) ACSR conductors
 - (d) None of these
4. Corona occurs between two transmission wires when they
 - (a) Are closely spaced
 - (b) Are widely spaced
 - (c) Have high potential difference
 - (d) Carry dc power
5. The power transmitted will be maximum when
 - (a) Corona losses are minimum
 - (b) Reactance is high
 - (c) Sending end voltage is more
 - (d) Receiving end voltage is more

6. The square root of the ratio of line impedance and shunt admittance is called
 (a) Surge impedance of the line (b) Conductance of the line
 (c) Regulation of the line (d) None of these
7. The power factor of industrial loads is generally
 (a) unity (b) Lagging (c) Leading (d) Zero
8. Transmission line insulators are made of
 (a) Glass (b) Porcelain (c) iron (d) PVC
9. In a substation the following equipment is not installed
 (a) Exciters (b) Series capacitors
 (c) shunt reactors (d) Voltage Transformers
10. Electro mechanical voltage regulators are generally used in
 (a) Reactors (b) Generators
 (c) Transformer (d) All the above

PART - B (5 x 2 = 10 Marks)

11. Write the difference between EHVAC and HVDC transmission system.
12. Define skin effect.
13. Define transmission efficiency.
14. What are the types of insulators?
15. Define sag.

PART - C (5 x 16 = 80 Marks)

16. (a) What are the various types of HVDC links and explain them in detail. (16)
- Or
- (b) Explain with neat diagram about STATCOM and UPFC. (16)
17. (a) Derive the expression for capacitances of single phase transmission system and discuss the effect of earth on capacitance with suitable equation. (16)
- Or
- (b) Derive the capacitance of three phase line unsymmetrically transposed. (16)

18. (a) Derive the expression for sending end voltage in nominal T method. (16)

Or

(b) Explain the Ferranti effect with a phasor diagram and its causes. (16)

19. (a) Discuss any two methods to increase the value of string efficiency with suitable sketches. (16)

Or

(b) Explain various methods of grading of cables with necessary diagram. (16)

20. (a) Explain various methods of grounding. (16)

Or

(b) Derive the expression for sag and conductor length under bad weather conditions, assume shape of overhead line is a parabola. (16)
