

## Question Bank (K- scheme)

**Unit Test: II**

**Name of Course: Electrical Power Generation, Transmission & Distribution**

**Course Code: 313333**

**Course: GTD**

**Semester: III**

**Programme: EE**

### **Chapter 3: Transmission Line Components, Parameters and Performance (8M)**

#### **2 Marks Questions**

1. Define: voltage regulation and Transmission efficiency of transmission line.
2. State the disadvantages of proximity effect.

#### **4 Marks Questions**

3. Explain short and medium (all 3 types) transmission lines with neat circuit diagram, phasor/ vector diagram, voltage regulation and Transmission efficiency.
4. Describe the Skin effect and state its disadvantages.
5. Each line of a 3 ph system is suspended by a string of 3 similar insulators. If the voltage across the line unit is 17.5 kV, calculate the line to neutral voltage. Assume that the shunt capacitance between each insulator and earth is 1/8th of the capacitance of insulator itself. Also find the string efficiency.

### **Chapter 4: Extra High Voltage Transmission (HVAC & HVDC) (12M)**

#### **2 Marks Questions**

6. State the application of HVDC transmission line.
7. State four HVDC transmission line route on India with their voltage level.
8. State features of wireless power transmission.
9. State the types of FACTs with two examples each.
10. State the advantages of HTLS conductors. (Any four)

#### **4 Marks Questions**

11. State the limitations of EHVAC transmission line.

12. Draw the symbols and state the function of following components used in substation – Bus, transformers, circuit breaker, reactor, lightning Arrester and relays.
13. Draw and explain Monopolar HVDC transmission system.
14. Explain the Ferranti effect and corona effect in detail.
15. Draw and explain Bi-polar HVDC transmission line. State any two merits of the same.
16. Explain the phenomenon of Corona. State how Corona effect can be reduced?
17. Draw a neat block diagram of HVDC system. Also give any two advantages and limitations of the same.

## **Chapter 5: Distribution Line Components, Parameters and Performance (16M)**

### **2 Marks Questions**

18. Define: primary and secondary distribution system.
19. State the classification of distribution substation.
20. State any two properties of insulating material used for overhead insulator.
21. Define feeder and distribution system.
22. Give advantages and disadvantages of distribution substation.

### **4 Marks Questions**

23. State any four properties of conductor material used for overhead conductor.
24. Compare feeder & distributor system.
25. Draw a neat diagram of radial, ring & grid distribution system and state its advantages and disadvantages.
26. A single phase AC distributor AB 300 M long is fed from end A and is loaded as under.  
(i) 100 A at 0.707 pf lagging 200 m from point A. (ii) 200 A at 0.8 pf lagging 300 m from point A, The load resistance and reactance of the distributor is 0.2 ohm and 0.1 ohm per kilometer. Calculate total voltage drop in the distributor. The load power factors refer to the voltage at the far end.
27. List the factors to be considered while designing feeders and distribution with their functions in brief.
28. Draw single line diagram of the following:
  - a. 11kv/400 V distribution substation.
  - b. 33/11 kV substation.