

- ✓ State the factors to be considered in the selection of a voltage suitable for transmitting a certain amount of power over a given distance.
- ✓ Explain surge impedance loading.
- ✓ Write all steps required to design a transmission line.
- ✓ Explain reduction of tower footing resistance?
- ✓ Explain the factor while considering choice and spacing of conductors for transmission line design?
- ✓ Design a transmission line to transmit three phase 90 MW at 0.95 power factor lagging over a distance of 180 km.
- ✓ Derive the sag tension relation for a given span with towers at each end located at unequal level?
- ✓ Explain the use of bundle conductor in EHV transmission line. Also explain how the spacing , selection of size and number of conductors for EHV lines is done?
- ✓ Discuss Radio and television interference?
- ✓ Differentiate between shunt and series compensation?
- ✓ Discuss the application of HVDC System?
- ✓ Explain the corona effect and loss with standard formula?
Explain tuned power lines?
- ✓ What are the factors which affects the type of distribution system chosen under different conditions in the area?
- ✓ A three-phase four wire 400/230 V distribution system is loaded as below. a) A 3-phase induction motor load of 250 kW at 0.8 power factor lagging b) Single-phase resistance load of 200 kW between R and N c) Single-phase resistance load of 150 kW between Y and N d) Lightning load of 150 kW between B and N. Find (1) line currents, (2) power factor of the distribution system loads and (3) current in the neutral. Represent the result with help of phasor diagram.

- ✓ Discuss the steps for planning and designing of electrical distribution schemes.
- ✓ Explain the methods of designing primary-distribution system with reference to (a) choice of voltage (b) conductor size (c) type of distribution and (d) Voltage drops
- ✓ State and explain kelvin's law for most economical size of conductor.
- ✓ A 2 wire dc distributor AB is fed from both ends. At the feeding point A voltage is maintained at 240 V and at feeding point B voltage 254V. The total length of distribution is 200 meters and load are tapped off as under: 25 A at 50 meters from A; 50 A at 75 meters from A; 30 A at 100 meters from A; 40 A at 150 meters from A. If the resistance per km of one conductor is 0.3 ohm. Calculate (I) The current in the various sections of the distributor. (II) The minimum voltage and the point at it occur.
- ✓ Explain how will you select the size and location of generating station?
- ✓ What is interconnection? Write a short note.
- ✓ Explain voltage transformer earthing
- ✓ Explain station earthing system with earthing grid
- ✓ Explain briefly step potential and touch potential?
- ✓ What is earth resistance? What is value should be as low as possible? How it is measured with voltmeter ammeter method?
- ✓ What is B.I.L.? How lightning arrestor selection is done with proper insulation coordination?
- ✓ Explain how voltage regulation and losses in a power system is determined?
- ✓ Explain any one method used for measurement of power system reliability
- ✓ Write a short note on power system improvement scheme.
- ✓ Write a note on procedure to carry out insulation co-ordination.
- ✓ Comment upon location of the L.A. in substation. Justify your answer?