

S.B. Roll No.....

ELECTRICAL POWER -1
5th/Elect/EEE/2527/Nov'15

Duration: 3 Hrs

M.Marks=75

SECTION-A

Q1. Fill in the blanks:

1.5x10=15

- i. In India _____ system is adopted for transmission of electrical power.
- ii. In ACSR conductor _____ strands are placed in the centre of the conductors.
- iii. If the length of the transmission line is increase its capacitance will _____.
- iv. Power loss in the transmission line is due to _____ of the line.
- v. In a 3-phase, 4-wire AC system, the current in the neutral is _____ when the load is balanced.
- vi. Armouring is provided in the cable to improve their _____ strength.
- vii. In LT distribution line, a D-strap is used to hold _____.
- viii. When all the three phases are short circulated the fault is called _____.
- ix. By improving the p.f of the system the kW power delivered by the generating station is _____.
- x. String efficiency is defined as _____.

SECTION- B

Q2. Attempt any SIX questions:

6x5=30

- I. Discuss the layout of transmission line?
- II. Define the efficiency of transmission and how it can be improved?
- III. State skin effect and proximity effect?
- IV. How are transmission lines classified? Explain.
- V. How does A.C. distributor differ from D.C. distributor?
- VI. What do you understand by the sub- station? What are the functions, which can be performed at the sub station?
- VII. What is power factor ? How power factor is improved by employing static capacitor.
- VIII. State advantages and disadvantages of ACSR conductor over copper conductor for use in transmission lines

SECTION-C

Q3. Attempt any THREE questions:

10x3=30

1. What is corona? What are its advantages and disadvantages? How it is minimized?
2. (a) Derive an expression for sag of an overhead line conductor supported on level supports.
(b) Derive an expression for the loop inductance of a single phase overhead line.
3. (a) Give maintenance schedule of line.
(b) Write short note on feeder, distributor and service main.
4. (a) Compare the merits and demerits of direct law in and solid system of laying underground cables.
(b) Name the least ten components of an LT(400/230V) overhead distribution line.
5. (a) Give layout of 33/11kV substation.
(b) What are disadvantages of low power factor?