

Total No. of Questions : 8]

SEAT No. :

P3370

[Total No. of Pages : 2

[5353] - 564

T.E. (Electrical)

ELECTRICAL INSTALLATION MAINTENANCE & TESTING

(2015 Pattern)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to candidates:

- 1) *Neat diagrams must be drawn wherever necessary.*
- 2) *Figures to the right indicate full marks.*
- 3) *Use of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.*
- 4) *Assume suitable data, if necessary.*

- Q1)** a) State and Explain Kelvins law with its Limitations. [6]
b) Explain Touch Potential and Step Potential [6]
c) Write short note on following: [8]
i) Dielectric Absorption Ratio
ii) Polarization Index

OR

- Q2)** a) A single phase one km long distributor having sending end A and far end B has total(to and return) conductor resistance and reactance conductor of 0.2Ω and 0.3Ω respectively. At the far end, the voltage V_B is 200 V and the current is 100A at p.f.0.6 lagging with reference to the voltage V_B . At the mid-point M of the distributor, a current of 100 A is tapped at a p.f. of 0.6 lagging with reference to the voltage V_M at mid-point. Calculate Voltage at Mid-point (V_M). [8]
b) State the Objectives of Neutral Earthing. [6]
c) Explain Breakdown Maintenance? Give one Example? [6]

- Q3)** a) Explain Dissolved Gas Analysis (DGA). [6]
b) What is Signature Analysis? How it is used for condition monitoring of Induction Motor? [8]
c) Which are the causes of failure of on line Tap Changer? [4]

P.T.O.

OR

- Q4)** a) Explain Degree of Polymerization. [6]
b) Enlist the methods of locating cable fault. Explain any one. [8]
c) State various failure modes of transformer? [4]

- Q5)** a) Explain Different Types of Wires generally used for Residential Wiring. [6]
b) Write Down various steps in Estimation of 11kV pole mounted substation. [6]
c) Write down the General Rules for Residential Wiring Work. [4]

OR

- Q6)** a) Write short notes on the following: [9]
i) Schedule of Failure rate
ii) Current Carrying Capacity
iii) Voltage Drop
b) Explain the procedure of estimation of underground LT service lines. [7]

- Q7)** a) Classify Different Hazard Areas and its effect on Human Body. [6]
b) Write any Objectives of Electrical Safety. [5]
c) Enumerate the dangers arising out of faulty equipment with an example. [5]

OR

- Q8)** a) Explain IE Act and Statutory Regulations for Electrical safety. [8]
b) Describe how electric Accidents can be prevented. [8]

