Total No. of Questions : 8]

SEAT No. :

P3370

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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 0.2 Ω and 0.3 Ω 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]**