

Total No. of Questions : 8]

SEAT No. :

[Total No. of Pages : 2

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[5253] - 530

T.E. (Electrical)

**ELECTRICAL INSTALLATION MAINTENANCE & TESTING
(2015 Pattern)**

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6 and Q7 or Q8.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Use of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.*
- 5) *Assume suitable data, if necessary.*

- Q1)** a) Write the classification of AC Supply System. [6]
b) With neat sketch explain the single bus bar system with sectionalisation. [6]
c) Write short notes on following: [8]
i) Dielectric Absorption Ratio
ii) Thermography

OR

- Q2)** a) A single phase a.c. distributor AB of length 300 mt. has total impedance of $Z_{AB} = (0.2+j0.1) \Omega$ per km. With sending end at A, the distributor is loaded as under: [8]
i) at C, 200 mt. from A, 100A, at p.f 0.707 lag
ii) at B, 300 mt. from A, 200A, at p.f 0.8 lag
Load p.f are referred to far end B.
Calculate the total voltage drop in the distributor.
b) Explain Pipe Earthing with neat diagram. [6]
c) Explain insulation stressing Factors. [6]

- Q3)** a) Explain Failure modes of Transformer. [6]
b) Describe any one method of cable Fault Location. [8]
c) Explain Degree of Polymerization? [4]

OR

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- Q4)** a) Explain Motor Current Signature Analysis. [6]
b) Explain Dissolved Gas Analysis. [8]
c) Explain the IS/IEC standards for condition monitoring of transformer oil. [4]

- Q5)** a) Explain the Procedure of installation of Underground LT Service Line [7]
b) Explain how Schedule of Failure rate is made. [4]
c) How cable sizing is decided for particular application? Explain how Price Catalogue is referred for the same. [5]

OR

- Q6)** a) Explain the General Factors to be considered in estimation of HT/LT Lines. [8]
b) Describe how labour rates and schedule of rates are considered for estimating the data for laying of overhead lines. [8]

- Q7)** a) Explain the causes of Accidents. How they can be prevented? [8]
b) Write Down IE Act and Statutory Regulations for Electrical safety. [8]

OR

- Q8)** Write short notes on following: [16]
a) Contents of First Aid Box
b) Treatment for Electrical Shock
c) Danger Arising due to Failure of Insulation.
d) Objectives of Electrical Safety.

