Total No. of Questions : 8]

SEAT No. :

P3609

[Total No. of Pages : 2

[5560]-564
T.E. (Electrical)
ELECTRICAL INSTALLATION, MAINTENANCE AND TESTING
(2015 Pattern) (Semester-I) (303144)

Time : 3 Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.***
2) ***Neat diagrams be drawn whenever necessary.***
3) ***Figures to the right indicate full marks.***

Q1) a) Compare -3 phase, 4-wire A.C. underground system with 3-phase 3-wire system on the basis of volume required for the conductor material. **[8]**

b) State and explain Kelvin's law. State limitations of Kelvin's law. **[6]**

c) Write short note on thermography concept with respect to maintenance of transformer. **[6]**

OR

Q2) a) A single phase distributor has a resistance of 0.2 Ω and reactance of 0.3 Ω. At far end the voltage 'Vb' is 240 V. and current is 100 Amp at 0.8 p.f. lagging. At midpoint 'a' the current is 100 Amp at 0.6 p.f. lagging with respect to voltage 'Va' at 'a'. Find supply voltage and phase angle between 'Vs' and 'Vb'. **[8]**

b) State different types of maintenance strategies. Explain Breakdown and preventive maintenance. **[6]**

c) State the objectives of Neutral Earthing. **[6]**

Q3) a) Explain the process of condition monitoring of transformer bushings. **[10]**

b) Explain the various abnormal condition and causes of failure of induction motor. **[8]**

OR

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Q4) a) How degree of polymerization and partial discharge measurement is used for condition monitoring of transformer? **[10]**

b) What is signature analysis? How it is used for condition monitoring of induction motor? **[8]**

Q5) a) Explain general rules for commercial and residential wiring work. **[8]**

b) While estimating, how price catalogue, labour rates and schedule of rates are correlated? **[8]**

OR

Q6) a) What are the essentials of estimating and costing? How cable sizing is to be decided for particular application. **[8]**

b) State the general factors that should be considered in estimation of HT and LT lines. **[8]**

Q7) a) List out various objectives of Electrical safety. **[8]**

b) Explain IE Act and Statutory Regulations with respect to electrical safety. **[8]**

OR

Q8) a) Write a short note on: **[8]**

i) Different hazardous area and its effects on human body.

ii) Danger arising due to failure of Insulation of the equipment.

b) Explain different causes of accidents and describe how electric accidents can be prevented? **[8]**