

Total No. of Questions : 8]

SEAT No. :

PD4268

[Total No. of Pages : 2

[6403]-64

T.E. (Electrical Engineering)

**ELECTRICAL INSTALLATION, DESIGN AND CONDITION
BASED MAINTENANCE**

(2019 Pattern) (Semester - V) (303144)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 and Q.7 or Q.8.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.
- 4) Assume suitable data if necessary.

Q1) a) List and explain the various advance tools and techniques of condition monitoring. **[6]**

b) Explain motor current signature analysis (MCSA) with suitable diagrams. **[8]**

c) State and explain various failure modes in a transformer. **[4]**

OR

Q2) a) What is maintenance? State its importance and its advantages. **[4]**

b) Explain following Terms: **[6]**

i) Role of thermography in electric field

ii) State the basic causes of insulation degradation

c) Explain Dissolved Gas Analysis. **[8]**

Q3) a) Write short notes on Guidelines for inviting tenders. **[3]**

b) Write short notes on the following: **[6]**

i) Schedule of rates

ii) Labour rates

c) What are the qualities of good estimator? **[8]**

OR

Q4) a) Write short notes on Price catalogue. **[3]**

b) What are the essentials of estimating and costing? **[6]**

c) State the general factors to be considered in estimation of LT lines. **[8]**

P.T.O.

- Q5)** a) Write short note on Minimum permissible size of the conductor. [4]
b) How to determine size of conductor for lines. [6]
c) Explain various residential wiring methods. [8]

OR

- Q6)** a) Write down all rules for residential wiring work. [4]
b) Write short notes on the following: [6]
i) Current carrying capacity
ii) Voltage drop
c) Explain the procedure of installation of underground LT service line. [8]

- Q7)** a) List the different methods for earth testing. Explain any one method in detail with suitable diagram. [9]
b) Explain IE Act and Statutory Regulations for Electrical Safety. [8]

OR

- Q8)** a) Enumerate the danger arising out of faulty equipment with appropriate examples. [9]
b) Classify different hazardous areas and its effect on human body. [8]

