

Total No. of Questions : 4]

SEAT No. :

PC-36

[Total No. of Pages : 2

[6360]-36

T.E. (Electrical Engineering) (Insem)
ELECTRICAL INSTALLATION DESIGN AND
CONDITION BASED MAINTENANCE
(2019 Pattern) (Semester - I) (303144)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates :

- 1) *Solve Q1 or Q2; Q3 or Q4.*
- 2) *Figures to the right indicate full marks.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Assume suitable additional data, if necessary.*
- 5) *Use of non-programmable calculator is allowed.*

- Q1)** a) State and explain kelvins law with graphical illustration [7]
b) Single phase ac distributor AB is 500mt. long. Distributor is fed from point A and is loaded as [8]
i) 100A at 0.707 lagging power factor at 300 mt. at C from Point A
ii) 200 A at 0.8 lag power factor at 500 mt. from Point A.

The power factors at both load points are referred to voltage at the far end. The Total Impedance of distributor is $(0.2 + j 0.1) \Omega$ per km. Calculate total voltage drop in distributor.

OR

- Q2)** a) Compare Three phase three wire ac supply for both overhead and underground system based on requirement of volume of conductor material required [7]
b) Explain with diagram radial and ring type distribution feeder with its energy losses and voltage level used in distribution system [8]
- Q3)** a) List out the symbols used in substation with their specification (Min 7) [7]

P.T.O.

- b) Explain neutral grounding with relevant diagram, advantages, disadvantages and application. [8]

OR

- Q4)** a) List out types of Bus bar system and explain any one with neat sketch and applications [7]
- b) Explain following term with diagram: [8]
- Touch Voltage
 - Step Voltage
