Total No. of Questions : 4]

SEAT No. :

PC-36

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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) Ω 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]**

i) Touch Voltage

ii) Step Voltage

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