Total No. of Questions : 4]

SEAT No. :

P-5036

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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) Explain in details design considerations of Distribution feeder. **[7]**

b) A single phase distributor AB has R = 0.2Ω and X = 0.3Ω, at far end B. The voltage V_B is 240 V and current 100 A at pf 0.8 lagging. At mid-point current is 100A at 0.6 pf lagging w.r.t. to voltage V_A at A. Find supply voltage and phase angle between V_A and V_B? **[8]**

OR

Q2) a) Explain the difference between overhead Transmission line and Underground Transmission line based on volume of conductor? **[7]**

b) State and prove the Kelvin's Law for feeder design reference to supply system. State its 3 limitations? **[8]**

Q3) a) Write the substation equipments their locations and functions. **[7]**

b) State the types of Bus bar systems and explain duplicate bus bar system with diagram. **[8]**

OR

Q4) a) Explain the Indian Electricity Rules for Earthing. **[7]**

b) Explain Plate Earthing with neat diagram. **[8]**

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