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

Time : $2^{1/2}$ Hours [Max. Marks : 70 Instructions to the candidates : Solve Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7or Q8 1) Neat diagrams must be drawn whenever necessary. 2) Figures to the right indicate full marks. 3) Assume suitable data if necessary. *4*) 5) Use of logarithmic tables slide rule, Mellier charts, electronic pocket calculator [×]and steam table is allowed. Q1) a) Compare Preventive & breakdown maintenance. [4] b) State the reasons for the insulation degradation. [6] c) Explain Dissolved Gas Analysis [8] OR Explain motor current signature analysis (MCSA) with suitable diagrams. **02**) a) [8] Explain preventive maintenance of induction motor with merits **[6]** b) c) Explain use of Thermography in power system. [4] (Q3) a) Write short note on Price catalogue. [3] What are the essentials of estimating and costing [6] b) State the general factors to be considered in estimation of LT lines. [8] *P.T.O.*

		OR 6	
Q4)	a)	What are the qualities of good estimator?	[8]
	b)	Write short notes on the following:	[6]
		i) Schedule of rates	
		ii) Labour rates	
	c)	State & explain Guidelines for inviting tenders.	[3]
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Q 5)	a)	Write down all rules for residential wiring work.	[4]
	h)	Write short notes on the following:	[6]
	0)	i) Ourrent corrying conscity	[v]
		i) Carrent carrying capacity	
		ii) Voltage drop	
	c)	Explain the procedure of installation of underground LT service line.	[8]
	D	ORO	

Explain various residential wiring methods with diagrams. **Q6**) [8] a)

b) A hall of 10×5 met is to be provided with 6 light points, 4 fan points & 2 plugs (5A). The plan of hall is as shown in figure:



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- (Q7) 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]

[8]

Q8) a) List the different methods for earth testing. Explain any one method in detail with suitable diagram. [9]

OR

b) How electrical accidents can be avoided? ****