Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC - SEMESTER – III • EXAMINATION – WINTER 2012

Subject code: X 30904 **Date: 02/01/2013**

Subject Name: Electrical Power

Time: 10.30 am - 01.00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Draw schematic arrangement of Thermal power plant. Also state function of each part.	**05**
	(b)	Explain points to be considered while selecting site for Nuclear power plant.	**05**
Q.2	**(a)**	Explain schematic arrangement of hydro power plant. Also state function of each part.	**07**
	(b)	Write a short on Combine cycle power plant.	**07**
		OR	
	(b)	Write a short note on Gas turbine power plant.	**07**
Q.3	**(a)**	Explain basic construction of Cable	**07**
	(b)	What is String efficiency? Derive equation of it.	**07**
		OR	
Q.3	**(a)**	Explain methods to improve string efficiency.	**07**
	(b)	Comparison between underground and Over head transmission system.	**07**
Q.4	**(a)**	Derive the equation of inductance for single phase 2 wire system.	**07**
	(b)	List out the equipments used in substation. Also state function of each.	**07**
		OR	
Q.4	**(a)**	Explain (i) Ferranti effect (ii) Skin effect (iii) Proximity effect	**09**
	(b)	Determine the inductance per km of a 3-phase transmission line using 20 mm diameter conductors when conductors are situated at the corner of a triangle with spacing of 4, 5 and 6 meters. Conductors are regularly transposed.	**05**
Q.5	**(a)**	Explain advantages of power factor improvement.	**07**
	(b)	Explain advantage of Neutral earthling.	**07**
		OR	
Q.5	**(a)**	State and explain methods for power factor improvement.	**07**
	(b)	Write a short note on Arc suppression coil.	**07**

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