Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER V • EXAMINATION – WINTER - 2012

Subject code: 150801 **Date: 12-01-2013**

Subject Name: Electrical Power Engineering

Time: 02:30 pm to 05:00 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)**	Explain schematic arrangement of Thermal power plant.	**07**
	(b)	Comparison between Thermal, Hydro and Nuclear power plant.	**07**
Q.2	**(a)**	Compare A.C and D.C power supply scheme.	**07**
	(b)	Classify different distribution system. Explain any one in detailed.	**07**
		OR	
	(b)	A 2- wire dc distributor 200 meters long is uniformly loaded with 2A/meter. Resistance of single wire is 0.3 Ω/km. if the distributor is fed at one end. Calculate (i) the voltage drop upto a distance of 150 meters from the feeding end (2) the maximum voltage drop.	**07**
Q.3	**(a)**	Derive the ABCD parameter for Nominal Π medium transmission line.	**07**
	(b)	Derive the equation of inductance for single phase double line circuit.	**07**
		OR	
Q.3	**(a)**	Explain briefly different types of insulators used in power system.	**07**
	(b)	State and explain different types of tariff	**07**
Q.4	**(a)**	What is string efficiency? Derive the equation for it.	**07**
	(b)	What is corona? Also state factors affecting it.	**07**
		OR	
Q.4	**(a)**	State different methods to improve String efficiency.	**07**
	(b)	Compare EHVAC and HVDC electric systems.	**07**
Q.5	**(a)**	What is the importance of good power factor? Explain factors affecting it.	**07**
	(b)	Write a note on Tap changing Transformer (ON load).	**07**
		OR	
Q.5	**(a)**	State and explain different methods to improve power factor.	**07**
	(b)	Explain (1) Diversity factor (2) Plant capacity factor (3) Load factor.	**07**

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