

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**
