

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma Engineering - SEMESTER-III • EXAMINATION – WINTER 2013

Subject Code: 330904

Date: 02-12-2013

Subject Name: Generation and Transmission of Electrical Power

Time: 02:30 pm - 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.
4. English version is considered to be Authentic.

Q.1 (a) State different cycles of Thermal power station and explain any one cycle with neat sketch **07**

(b) State the elements of Hydro power station and write the function of each. **07**

Q.2 (a) Compare overhead system versus underground system for Transmission of power. **07**

(b) State the effect of system voltage and Power factor on transmission line efficiency. **07**

OR

(b) Define string efficiency and describe any one method of improving it. **07**

Q.3 (a) Derive expression for sag with equi-level supports considering effects of wind and ice **07**

(b) Explain the working principle of M.H.D. & wind power generation with block diagram. **07**

OR

Q.3 (a) Calculate actual sag and vertical sag from the following data. Weight of conductor = 1.98 kg/m, weight of ice=1.5kg/m, Span = 150 m, Tension=2000kg. **07**

(b) Derive expression for voltage regulation and efficiency for short transmission line. **07**

Q.4 (a) State the functions of Load Dispatch Centre **07**

(b) Explain the working of diesel power station with block diagram. **07**

OR

Q.4 (a) Write advantages of HVDC transmission over EHVAC and Explain types of HVDC system **07**

- (b) Explain working of PLCC with line diagram **07**
- Q.5** (a) Explain construction and working of speed governor system. **07**
- (b) Write short note on “Equipments of HVDC system” **07**
- OR**
- Q.5** (a) Write short note on Tirril Voltage Regulator. **07**
- (b) Write short note on line insulators **07**
