

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII (NEW) EXAMINATION – WINTER 2017

Subject Code: 2180903

Date: 02/11/2017

Subject Name: Power System Planning and Design

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.

		MARKS
Q.1	(a) What is step potential?	03
	(b) Discuss touch potential.	04
	(c) Explain the design of earthing grid.	07
Q.2	(a) What is BIL? Discuss in detail.	03
	(b) What are the financial aspects of the power system improvement scheme?	04
	(c) Write a note on procedure to carry out insulation co-ordination.	07
	OR	
	(c) Explain the primary distribution design.	07
Q.3	(a) How the size of distributors is calculated?	03
	(b) Explain SIL.	04
	(c) What is lamp flicker? Discuss its types and remedies for the lamp flicker.	07
	OR	
Q.3	(a) Discuss various voltage ratings to be taken into account while selecting the lightning arrestors.	03
	(b) Discuss protective margin.	04
	(c) How the electrical design of the transmission lines is carried out? Discuss in detail.	07
Q.4	(a) What are sag templates?	03
	(b) Why transmission should be carried out at high voltages?	04
	(c) Derive the sag-tension relation in a T-line.	07
	OR	
Q.4	(a) How generation planning is carried out?	03
	(b) Discuss distribution system planning.	04
	(c) Explain radio and television interference.	07
Q.5	(a) How the size of the generation station is determined?	03
	(b) Write a note on selection of location for power plants.	04
	(c) Discuss the power system improvement scheme in detail.	07
	OR	
Q.5	(a) What is interconnection? Write a short note.	03
	(b) Write a note on Corona.	04
	(c) Discuss the transmission and distribution planning in detail.	07
