Seat No.: _____ Enrolment No.

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**

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