Seat No.: Enrolment No GUJARAT TECHNOLOGICAL UNIVERSITY ME – SEMESTER II (NEW) – • EXAMINATION – SUMMER 2016				
Su	bject	Code: 2720720 Date: 31/05/20 Name: Power System Transients	Date: 31/05/2016	
	ructio 1. 2.	0:30 am to 01:00 pm Total Marks: Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	70	
Q.1	(a) (b)	Explain the computational procedure for EMTP calculation with a neat flow chart. Define Transient and its importance. Write down the expressions for reflection coefficient and refraction coefficient.	07 07	
Q.2	(a) (b)	Explain the behavior of travelling waves at capacitive and inductive termination. Explain the transient response of a system with series and shunt and lumped parameters. OR	07 07	
	(b)	With neat sketch and example explain Bewley's lattice diagram.	07	
Q.3	(a) (b)	Explain the interaction between lightning and power system. Explain the various types of power system transients with illustration. OR	07 07	
Q.3	(a) (b)	Discuss the various techniques of protection of power system against lightning? Write short notes on Double frequency transients?	07 07	
Q.4	(a) (b)	Explain determination and statistical approaches to insulation coordination. Explain in detail how the charges are formed in the clouds.	07 07	

(b) Classify different types of lightning arrestors and explain any one of them in

Importance of insulation coordination. Also explain herarchary of insulation

OR

Q.4

Q.5

Q.5

(a)

(b)

(a)

coordination.

detail.

Briefly explain surge protection of generators.

Explain the characteristics of protective devices.

Write short note on lightning shielding of substation.

Explain lighting discharge and give its mathematical model.

07

07

07

07

07

07