Seat No.:	Enrolment No.

Subject Code: 181201

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII • EXAMINATION - SUMMER • 2015

Date:15/05/2015

Tin	ne:10	Name: Telecommunication Transmission and Switching .30AM-01.00PM Total Marks:	70
Inst	ruction 1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	Explain following terms: (i) Trunks (ii) direct control switching system (iii) Transit Exchange (iv) called subscriber held (v) Time consistent busy hour (vi) CCR (vii) ISDN	07
	(b)	Design a non-blocking exchange for 100 lines using two motion selectors. Also find out all the necessary design parameters.	07
Q.2	(a)	Enlist all the enhanced services provided by the Store Program Control exchange. Also explain any three of them in detail.	07
	(b)	For a two-stage network, derive the equation for blocking probability. Also find out S and SC for blocking as well as non-blocking configuration. OR	07
	(b)	Draw and explain block diagram of common control switching system.	07
Q.3	(a)	Explain operation of Input controlled and output controlled time division space switch.	07
	(b)	Explain parallel-in/parallel-out configuration for time multiplexed time switch. OR	07
Q.3	(a)	Explain list management in Control Memory with respect to random input random output time switch.	07
	(b)	Explain TSI switch with neat sketch.	07
Q.4	(a)	Write short note on Grade of service and blocking probability.	06
	(b)	Discuss network architecture of ISDN	06
	(c)	A group of 20 servers carry a traffic of 10 erlangs. If the average duration of a call is three minutes, calculate the number of calls put through by a single server and the group as a whole in a one-hour period. OR	02
Q.4	(a) (b)	Discuss B-D process with necessary derivations. Write short note on signaling techniques.	06 06

	(c)	In a group of 10 servers, each is occupied for 30minutes in an observation interval of two hours. Calculate the traffic carried by the group.	02
Q.5	(a)	Write short note on n-Stage Networks.	07
	(b)	Explain Delay Systems in detail.	07
Q.5	(a) (b)	OR Explain dual processor architecture with all modes. Describe how a uni-selector can be used as a selector hunter or line finder. Compare both the approaches.	07 07
