Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII • EXAMINATION – WINTER 2013

Subject Code: 173204 **Date: 07-12-2013**

Subject Name: Telecommunication Engineering

Time: 10.30 am - 01.00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Define : (1) Erlang (2) Symmetric Network (3) CCR (4) Folded network (5)Transit exchange (6) BHCA (7) Time Consistent Busy Hour	**07**
	(b)	Draw and explain the block diagram of a pulse code modulation system for Speech communication.	**07**
Q.2	**(a)**	Explain the N X N three stage switching network. Draw the Lee's graph to discuss its blocking probability.	**07**
	(b)	Classify Signaling technique & Discuss architecture of SS7.	**07**
		OR	
	(b)	Discuss Single stage Vs Multi stage Network.	**07**
Q.3	**(a)**	With the help of block diagram explain Basic Time Division Time Switch.	**07**
	(b)	[1] In a group of 10 server, each occupied for 30 minutes in an observation interval of two hours. Calculate the traffic carried by the group. [2] 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 group as a whole in one-hour period.	**07**
		OR	
Q.3	**(a)**	What are the broad categories of the enhanced services? Discuss three-party Conferencing connection.	**07**
	(b)	Explain in detail level 3 processing of distributed SPC. Also compare micro programmed and hard wired control.	**07**
Q.4	**(a)**	Explain in detail LCC system with finite subscribers with derivation of blocking probability and GOS.	**07**
	(b)	Discuss Birth-death processes in detail.	**07**
		OR	
Q.4	**(a)**	Discuss operations of synchronous duplex mode and load sharing mode of stored program control.	**07**
	(b)	Give classification of switching systems & In what way is stored program control superior to hard wired control?	**07**
Q.5	**(a)**	Draw and explain the basic scheme for Common Channel Signaling.	**07**
	(b)	With the help of block diagram explain input controlled time division space Switch.	**07**
		OR	
Q.5	**(a)**	Explain in detail with diagrams of Time slot interchange switch (TSI).	**07**
	(b)	Explain Time Multiplexed Space Switching.	**07**

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