GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VII EXAMINATION – WINTER 2015

Subject Code: 173204   **Date:09/12/2015**
Subject Name: Telecommunication Engineering
Time: 10:30am to 1:00pm   **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)	Explain distributed SPC and level 3 processing in detail and also explain hardwired and micro programmed control system.	**07**
Q.2	**(a)**	Explain Time Division Time Switch in detail.	**07**
	(b)	Explain the N X N three stage network. Draw the Lee's graph to discuss its blocking probability.	**07**
		OR	
	(b)	Explain input control time division space switch in detail.	**07**
Q.3	**(a)**	Give the difference between Single stage and Multi stage network.	**07**
	(b)	Explain Centralized SPC and also explain the drawback of it	**07**
		OR	
Q.3	**(a)**	Draw and explain the block diagram of pulse code modulation for speech communication.	**07**
	(b)	Explain VOCODER in detail.	**07**
Q.4	**(a)**	[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**
	(b)	Explain the different types of enhance services in detail.	**07**
		OR	
Q.4	**(a)**	Explain Sampling and Quantization process for speech communication.	**07**
	(b)	Draw and explain the basic scheme for Common Channel Signaling.	**07**
Q.5	**(a)**	Explain Markov chain and Birth death process in detail.	**07**
	(b)	Explain briefly the architecture of SS7 System.	**07**
		OR	
Q.5	**(a)**	Explain companding Technique in detail.	**07**
	(b)	Explain in detail LCC system with finite subscribers with derivation of blocking probability and GOS.	**07**

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