

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. **07**
- [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.
- 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**
