

Printed pages: 2

MEC-102

(Following paper code and roll No. to be filled in your answer book)

Paper code: MEC-102

Roll No.

6 0 1 6 5 3 1 0 0 1

M.Tech.
FIRST SEM. EXAMINATION, 2010-11

Time: 3hrs.

Max. Marks: 100

Subject: Telecommunication System Engineering

- Note: (1) Attempt all questions.
(2) All questions are equal marks.
(3) Notations used have usual meaning.
(4) Assume any relevant data, if missing.

Q.1. Attempt any two parts of the following:

- (a) Explain Slepian Duguid Theorem with its proof for re-arrangeable network. *Notes*
- (b) Explain Benes network & Cantor network. *Notes*
- (c) Determine the switch advantage ratio of 3 stage network with N inlets & N outlets for the cases a) $N=128$ b) $N=32768$

Q2. Attempt any two parts of the following:

- (a) Explain LEE graph and Jacobaeous method for calculating blocking probability.
- (b) Derive the expression for blocking probability for lost call cleared system with infinite subscribers.

- (c) Explain Karnaugh method for blocking probability estimate

Q3. Attempt any two parts of the following:

- (a) Explain centralized and Distributed SPC.

- (b) Describe the functions of time slot interchange (TSI) with the help of diagram. Compare TSI with space switching.

- (c) Explain Overload control mechanism.

Q4. Attempt any two parts of the following:

- (a) Explain PCM signaling. Compare Inchannel signaling & Common channel signaling.

- (b) Discuss architecture of SS-7 (Signalling System-7).

- (c) Discuss IP telephony.

Q5. Attempt any two parts of the following:

- (a) Explain Packet switching by giving a typical packet format & packet switching network schematic diagram.

- (b) Explain Banyan Network and need for Batcher solution.

- (c) Explain shufflenet as a Delta network.