Roll Number: | | | | | | | | | | |

M.Tech

FIRST SEM.EXAMINATION, 2012-13

Time: 3hrs Max.Marks:100

SUBJECT: TELECOMMUNICATION SYSTEM ENGINEERING

MEC-102(SET-II)

Note: (1)Attempt all questions.

(2)All questions are of equal marks.

(3)Notations used have usual meaning.

(4)Assume any relevant data, if missing.

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

(a)Explain Centralized & Distributed Stored Program Control in details with necessary block diagrams.

(b)Describe about Time Slot Interchange(TSI)Switch. Briefly point out its differences with time division space switch.

(c)Discuss about SS-7 Signaling Technique.

2. *Attempt any two parts of the following:*

(a)Explain about TDM switching. Compare between circuit, message & packet switching.

(b)Explain about overload control mechanism.

(c)Explain Karnaugh's method of blocking probability estimate.

3. *Attempt any two parts of the following:*

(a) Deduce Erlang B formula for traffic engineering. Also write the expression of Erlang C formula as derived from Erlang-B formula.

(b)Discuss in details about IP Telephony.

(c)Explain Banyan network.

4. *Attempt any two parts of the following:*

(a) (i)A subscriber makes 3 phone calls of 3 minutes,6 minutes and 9 minutes duration in an 1-hour period.Calculate the subscriber traffic in Erlangs,CS,CCS and CM.

(ii) A group of 20 servers carry traffic of 10E.If the average duration of a call is 3 minutes, calculate the number of calls put through by a single server and the group as a whole in an 1-hour period.

5. *Attempt any two parts of the following:*

(a)Explain Paull's Matrix. State & explain Paull's Theorem with its proof.

(b)Explain Benes & Cantor network.

(c)Explain Slepaiu-Duguid Theorem with its proof for re-arrangeable networks.

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