(Subject Code and Roll No. to be filled in your Answer Book)

Roll No. | | | | | | | | | | |

M.Tech. – Electronics and Communication Engg.

I SEM. THEORY EXAMINATION 2011–12

TELECOMMUNICATION SYSTEM ENGINEERING

Time : 3 Hours *Total Marks : 100*

Note :– (1) Attempt **all** questions.

(2) All questions carry equal marks.

(3) Notations used have usual meanings.

(4) Assume any relevant data, if missing.

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

(a) Explain Slepian Duguid theorem with bits proof for re-arrangeable network.

(b) Explain Benes network and Cantor network.

(c) Determine the switch advantage ratio of 3 stage network with N inlets and N outlets for the cases (i) N = 128 (ii) 32768.

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

(a) Explain LEE graph and jacobeous method for calculating blocking probability.

(b) Derive the expression for blocking probability for lost call cleared with infinite subscribers.

(c) Explain Karnaugh method for blocking probability estimate.

3. 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 software architecture of SPC system.

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

(a) Explain PCM signaling. Compare in channel signaling and common channel signaling.

(b) Discuss architecture of SS-7 (signaling system-7).

(c) List the advantages and disadvantages of CCS.

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

(a) Explain packet switching by giving a typical packet format and packet switching network schematic diagram.

(b) Explain banyan network.

(c) Explain Circuit and Message switching in detail.