



**M 26866**

**Reg. No. :** .....

**Name :** .....

**VIII Semester B.Tech. Degree (Reg./Sup. – Including Part Time)  
Examination, April 2015  
(2007 Admn. Onwards)  
PT 2K6/2K6 EC 805 (C) : COMMUNICATION SWITCHING SYSTEMS**

**Time :** 3 Hours

**Max. Marks :** 100

***Instruction :*** Answer all questions.

**PART – A**

**Each question carries 5 marks.**

- i. 1) State the disadvantages of a single stage switch. How it is overcome by adopting a multistage network ?
- 2) Explain the major differences between the two different approaches of SPC.
- 3) What is meant by non blocking networks ? Discuss its merits and demerits.
- 4) Explain the principle of TSI with an illustrating diagram.
- 5) Define grade of service and blocking probability.
- 6) 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 the group as a whole in one hour duration.
- 7) Which are the two major classes of signalling techniques ? Briefly explain.
- 8) What is a base network ? Explain its structure with a neat diagram. **(8×5=40)**

**P.T.O.**



PART – B

Each question carries 15 marks.

II. A) With neat diagram, explain the operation of time division space switch.

OR

B) What is a combinational switch ? Explain the architecture and working of a three stage T-S-T switch.

III. A) Describe the blocking probability analysis of a three stage switch using Lee's approximation method.

OR

B) Describe the architecture and call completion procedure of a DMS 100 NTI switch.

IV. A) Assuming Poisson arrival process and exponential service time characteristics, derive the blocking probability conditions for a LCC system with infinite sources.

OR

B) Explain the following system models.

i) M/M/m/m

ii) M/G/1.

V. A) Describe the architecture and mode of operation of SS7 signalling scheme.

OR

B) Discuss the following signalling mechanism.

i) PCM signalling

ii) Inter-register signalling

iii) Digital customer line signalling.

(4×15=60)