Code No: S5332/R07 **RA**

IV B.Tech I Semester Supplementary Examinations, Feb/Mar 2011
TELECOMMUNICATION SWITCHING SYSTEMS
(Electronics and Communication Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Explain in detail about the technologies available at present for crosspoint design.
   (b) Explain telephone network hierarchy with the help of diagram? [8+8]
2. (a) Define each of the following terms: program, procedure, processor, process, user, task, job and subroutine.
   (b) Find the blocking probability of a three stage network for M=N=2048,p=q=16 and $\alpha = 0.1$ for S= 16, 24 and 32. [8+8]
3. (a) A telephone administration provides leased lines at the rate of Rs. 600 per Km for a minimum rental period of 3months. A heavy point-to-point traffic user has his office located 600 Km apart and is confronted with the choice of using STD or leased lines.At what traffic volume per day, should he move over to leased line? Assume 20 working days per month and a rate of Rs. 1 per unit recorded by the meter.
   (b) A telephone company proposes to introduce a simplified charging scheme where Charging is directly proportional to the time a user remains off-hook. Discuss the Merits and demerits of such a charging scheme. [8+8]
4. (a) What are the different types of busy hours defined by CCITT? Explain.
   (b) In a group of 10 servers, each is occupied for 30 minutes in an observation interval of two hours. Calculate the traffic carried by the group. [8+8]
5. (a) Give a brief description of the evolution of data communication.
   (b) Describe fundamental block diagram of a two station data communication circuit. [8+8]
6. What are the functions of a Bridge? Give the classification of Bridges and explain their operation ? [16]
7. (a) What are the data link protocols used by ISDN ? Explain.
   (b) Describe the four categories of messages in the ISDN network layer [8+8]
8. (a) Describe signals, transmission rates and devices used in SONET System.
   (b) Explain SONET Layers and function of each layer. [8+8]

⋆ ⋆ ⋆ ⋆ ⋆