# B.E. (Electronics \& Telecommunication / Electronics \& Communication Engineering) Sixth Semester (C.B.S.) <br> Telecommunication Switching Systems 

P. Pages : 2

Time : Three Hours

TKN/KS/16/7472
Max. Marks : 80

Notes : 1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Assume suitable data whenever necessary.
9. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Draw \& explain 1000 line exchange in detail.
b) Draw \& explain two motion selector switch and uniselector switch with neat diagram.

## OR

2. a) Explain in detail two dimensional switching.
b) Explain digital cross connect system with neat diagram.
c) List and explain four limitations of manual switching system.
3. a) What is Traffic Engineering.
b) Explain the following terms related with the traffic Engineering.
i) Busy hour
ii) Busy hour call attempts (BHCA)
iii) Busy hour calling rate
iv) Holding time
c) Explain mathematical model of traffic.

## OR

4. a) During the busy hour, 1200 calls were offered to a group of Trunks \& six calls were lost.

The average call duration was 3 minutes.
Find

1) The traffic offered
2) The traffic carried
3) The traffic lost
4) The grade of service
5) The total duration of the periods of congestion.
b) Explain Lost call systems.
5. a) Explain single stage Network in detail.
b) Explain principle of grading with the help of suitable diagram.

## OR

6. a) Explain call packing in switching Network.
b) Explain various call processing function.
7. a) Explain clock instability. List the sources of clock instability in a Network.
b) Write a short note on 'Elastic stores" in Network.

## OR

8. a) Explain Network Synchronization. 7
b) Write a short note on "Master-slave synchronization".
9. a) Explain various layers of OSI model.
b) Write short note on satellite Communication.

## OR

10. a) Explain Internetworking. Also give significance of Internetworking.
b) Draw \& explain ISDN. Architecture.8
11. a) Explain cellular Telephone system.
b) If a total of 33 mHz of bandwidth is allocated to a particular FDD cellular Telephone system which uses two 25 kHz simplex channels to provide full duplex voice \& control channels, compute the number of channels available per cell if a system uses.
a) Four cell reuse
b) Seven cell reuse
c) 12 Cell reuse.

## OR

12 a) Explain co-channel interference in celluar system. Also explain co-channel reuse ratio.
b) Explain about Roaming \& handoff.

