B.E. Sixth Semester (Electronics & Communication / Electronics & Telecommunication Engineering) (CBS)

Telecommunication Switching Systems

P. Pages : 2

Time : Three Hours

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. Due credit will be given to neatness and adequate dimensions.
9. Assume suitable data whenever necessary.
10. Diagrams and chemical equations should be given whenever necessary.
11. Illustrate your answers whenever necessary with the help of neat sketches.
12. Use of non programmable calculator is permitted.

1.	a)	Differentiate between local battery and central battery system.	**4**
	b)	Explain with neat sketch strowger exchange.	**6**
	c)	What do you mean by switching system? Give classification of same.	**4**

OR

2.	a)	Differentiate between space division switching and time division switching.	**4**
	b)	Draw and explain cross bar switching system.	**6**
	c)	Draw and explain ringing circuit as used in telephone system.	**4**
3.	a)	Explain traffic characteristics used in telephony.	**6**

b) Define the terms **7**
   i) lost call cleared
   ii) lost call returning
   iii) lost call held
Also calculate the traffic offered and traffic carried during busy hour where 900 calls were offered to a group of trunks and six calls were lost. The average call duration was 4 min.

OR

4.	a)	What do you mean by queuing system? Explain queues intandem.	**4**
	b)	What is the unit of traffic? Explain Erlang distribution for traffic measurement.	**5**
	c)	What is probability of Delay? How can it be overcome?	**4**

5.	a)	With the help of 3 – Stage network explain link system.	**6**
	b)	Explain various call processing functions.	**7**

OR

6.	a)	State and explain transition diagram of signal exchanges.	**7**
	b)	Explain the terms: i) Grade of Service. ii) Reliability of calls. iii) Non blocking Networks.	**6**
7.	a)	Explain the following terms: i) Jitter. ii) Elastic Stores. iii) Clock Instability.	**6**
	b)	What are the various approaches used in network synchronisation? Explain any one in detail.	**7**

OR

8.	a)	What is slips? Explain asynchronous multiplexing.	**6**
	b)	Explain routing control and flow control in network management.	**7**
9.	a)	Explain with the help of diagram the concept of ISDN.	**6**
	b)	Explain OSI model with the help of layered diagram.	**8**

OR

10.	a)	Explain satellite based data Networks.	**5**
	b)	What is PSTN? How data can be communicated with the help of PSTN.	**5**
	c)	Explain LAN with the help of suitable diagram.	**4**
11.	a)	Explain the terms: i) Roaming and Handoffs. ii) frequency reuse.	**6**
	b)	If a total of 50 MHz of BW is allocated to a particular FDD cellular telephone system which uses two 28 KHz simplex channels to provide full duplex voice and control channels compute the number of channels available per cell if a system uses i) four cell reuse ii) Seven cell reuse and iii) 12 cell reuse	**7**

OR

12.	a)	Explain cellular telephone system with the help of suitable diagram.	**6**
	b)	Explain cellular telephone network components.	**7**

****

2