

Printed Pages – 4

Roll No. :

328848(28)

B. E. (Eighth Semester) Examination, April-May 2021

(New Scheme)

(Electronics & Telecommunication Engg. Branch)

**TELECOMMUNICATION SWITCHING CIRCUITS
& NETWORKS**

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) of each unit is compulsory and carries 2 marks each. Attempt any two parts (b), (c) and (d) carrying 7 marks each.

Unit-I

1. (a) Define Link and Trunk. Also give examples of link and trunk.

2

[2]

- (b) Explain the principle of cross bar switching and different configurations of cross bar switching with neat and labelled diagram. 7
- (c) Explain in detail the principle of operation of Electronic Space Division Switching. 7
- (d) What are different kinds of stronger switching components? Explain each of them in detail. 7

Unit-II

- 2. (a) Define MDR and MAR. 2
- (b) Explain in detail Early Electronic Switching System. 7
- (c) What are the steps involved for call processing in computer controlled switching system? Also write the hardware configuration for the same. 7
- (d) Explain in detail Two Dimensional Digital Switching with suitable diagram. 7

Unit-III

- 3. (a) Draw a typical telephone traffic pattern during a working day. 2

[3]

- (b) Discuss the blocking probability and different blocking models in a telephone network. 7
- (c) Explain how the telephone network is established? 7
- (d) What is In-channel Signaling? Discuss it in detail. 7

Unit-IV

- 4. (a) Write the applications of SONET. 2
- (b) Write a short note on link to link layers and end to end layers. 7
- (c) Discuss the different types of switching techniques for data transmission. 7
- (d) Discuss how the data is transmitted in PSTNs? 7

Unit-V

- 5. (a) Write the different protocol architectures of ISDN. 2
- (b) Explain in detail the user-network interface in ISDN. 7
- (c) Comment and discuss briefly the structures of standards for PDN and ISDN. 7

- (d) Explain in detail the service characterization and different ISDN standards. 7

Fig-13

4. (a) Write the applications of PSTN.
(b) Write a short note on ISDN in the context of digital communication.
(c) Discuss the different types of switching techniques for data transmission.
(d) Discuss how the data is transmitted in PSTN.

Fig-14

5. (a) Write the different protocol mechanisms of ISDN.
(b) Explain in detail the non-numeric signaling in ISDN.
(c) Comment and discuss briefly the structure of standards for ISDN and PSTN.