R13

Code No: 118EW

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year II Semester Examinations, May - 2017

TELECOMMUNICATION SWITCHING SYSTEMS AND NETWORKS

(Electronics and Communication Engineering)

Time: 3 hours Max. Marks: 75

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions

PART A

(25 Marks)

1.a) Draw the basic telecommunication switching network and list its components. [2]
b) Briefly explain traffic performance. [3]
c) What is Time Division Switching? [2]
d) What is use of State Transition Diagrams for switching networks? [3]
e) Briefly explain the Signaling Information Field. [2]
f) What is Signal Units? Explain briefly. [3]
g) Explain basic principle of packet switching. [2]
h) Briefly explain Ring Networks and its list applications. [3]
i) Explain the basic principle of Integrated Digital Networks. [2]
j) What is Charging in telecommunication networks? [3]

PART B

(50 Marks)

2.a) Explain basics of Switching System.
b) Briefly explain Functions of a telecommunication Switching System. [5+5]

OR

3.a) Describe differences between electronic Switching and digital switching.
b) What is Queues in Tandem? Explain Delay Tables and list applications [5+5]

4.a) Distinguish between Two Stage Networks and Three Stage Networks.
b) Explain basic Time Division Time Switching with required diagrams [5+5]

OR

5.a) Explain Time Multiplexed Space Switching, and list its applications.
b) Describe the terms Common Control, Reliability, Availability and Security. [5+5]

6.a) Explain FDM Carrier Systems with suitable diagram.
b) Discuss various features and applications of PCM Signaling. [5+5]

OR

7.a) Write differences between Outband signaling and Inband signaling.
b) Explain Inter Register Signaling with the help of an application. [5+5]

8.a) Describe Datagrams and Virtual Circuits with suitable diagram and applications.
b) Explain the terms (i) Routing (ii) Flow Control related to switching networks. [5+5]

OR

9.a) Explain the basic principle and applications of the Asynchronous Transfer Mode.
b) Compare Bus and Ring Networks along with diagrams. [5+5]

10.a) Briefly explain Integrated Services Digital Networks.
b) Describe Intelligent Networks with its applications. [5+5]

OR

11.a) Explain the differences between Integrated Digital Networks and Integrated Services Digital Networks.
b) Write short notes on Analog Networks. [5+5]

--ooOoo--