

**R13**

**Code No: 118EW**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**B. Tech IV Year II Semester Examinations, April - 2018**

**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) What do you mean by Trunking? [2]
- b) Explain how traffic can be measured? [3]
- c) What is the function of a switching network? [2]
- d) Explain the principle of grading. [3]
- e) What do you mean by customer line signaling? [2]
- f) Comparison between CCITT signaling system number 6 and number 7. [3]
- g) What is the difference between local area and wide area networks? [2]
- h) Write short note on datagrams. [3]
- i) List out the services of ISDN. [2]
- j) Write short note on charging in networks. [3]

**PART - B**

**(50 Marks)**

- 2.a) Explain how a call is setup for both local and long distance call.
  - b) Discuss about "Cross point Technology". [5+5]
- OR**
- 3.a) On an average, one call arrives every 5 seconds. During a period of 10 seconds, What is The possibility that: (i) No call arrives (ii) One call arrives.
  - b) What is a lost call assumption? What is the theory behind lost call system? Explain. [5+5]
- 4.a) Explain in detail about Two-stage networks.
  - b) Explain in detail about Time division Space switching. [5+5]
- OR**
- 5.a) Compare and Contrast Time Multiplexed Space Switching and Time Multiplexed Time Switching.
  - b) Write short note on Availability and Security related to control of Switching Systems. [5+5]
- 6.a) Explain in-band and out-of- band signaling schemes with examples.
  - b) Briefly discuss Common Channel Signaling. [5+5]
- OR**
- 7.a) Explain the principle of general signaling networks.
  - b) Write short note on the signaling information field. [5+5]

AG AG AG AG AG AG AG A

- 8.a) Distinguish between bus and ring networks.  
b) Explain clearly about the asynchronous transfer mode.

[5+5]

OR

- 9.a) Explain the following terms in packet switching  
i) Routing ii) Frame Relay  
b) Discuss about broadband networks.

[5+5]

- 10.a) Briefly explain the integrated digital networks.  
b) What is mean by automatic alternative routing? Explain.

[5+5]

OR

- 11.a) Explain ISDN interfaces and protocol architecture in detail.  
b) List out the services and applications of intelligent networks.

[5+5]

---ooOoo---

AG AG AG AG AG AG AG A

AG AG AG AG AG AG AG A

AG AG AG AG AG AG AG A

AG AG AG AG AG AG AG A

AG AG AG AG AG AG AG A