Reg. No. :

Question Paper Code: 22022

M.E. DEGREE EXAMINATION, MAY 2014.

Second Semester

Communication Systems

01PCM202 - TELECOMMUNICATION AND SWITCHING ARCHITECTURE

(Regulation 2013)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. Distinguish between connection oriented and connectionless protocols.

2. Is there any demerit in packet switching? Justify.

3. Substantiate the statement: "TCP is connection oriented"

4. What are the benefits of virtual LANs?

5. Distinguish between recursive and non-recursive networks.

6. Draw tandem banyan network header architecture.

7. Why queuing is adopted in non-blocking multistage networks?

8. Define combined input-shared queuing.

9. List the features of IP switching.

10. Define next hop resolution.

PART - B (5 x 14 = 70 Marks)

11. (a) (i) Why is strowger exchange called "step by step switching system"?With a block
            diagram, briefly describe the concept of a step by step switching system.   (10)

    (ii) Compare strowger exchange with crossbar exchange.   (4)

(b) (i) With suitable diagrams, describe the functions of stored program exchange. (8)

(ii) How is data transmission made possible through PSTN? (6)

12. (a) (i) Discuss in detail about ATM networks. Comment on the current status of ATM networks. (10)

(ii) Substantiate the statement : "ATM is connection oriented protocol". (4)

Or

(b) (i) Describe TCP/IP protocol architecture. (7)

(ii) Write shortly about circuit switching and store and forward switching. (7)

13. (a) (i) Distinguish between basic and enhanced banyan networks. (9)

(ii) List out the various advantages and disadvantages of sorting networks. (5)

Or

(b) Explain about ATM switching with an example. (14)

14. (a) Enumerate the various queuing strategies adopted in ATM switches. (14)

Or

(b) Analyze the performance of various queued switches. (14)

15. (a) (i) Write short notes IP switching types. (6)

(ii) How the flow driven and its topology affect the signal to noise ratio of the switching networks. (8)

Or

(b) (i) List the applications of multicasting. (4)

(ii) Compare IPV6 over ATM. (10)

PART - C (1 x 10 = 10 Marks)

16. (a) What is a fully connected network ? Illustrate with an example, how many links are required to fully interconnect 50 subscribers ? (10)

Or

(b) Design a nine stage nonblocking network using recursive Clos construction. (10)

2

22022