

BT-6/J07

Computer Communication Networks

Paper : ECT-310

Time : Three Hours]

[Maximum Marks : 75

Note : Question 1 is compulsory. Attempt any other **FOUR** questions picking only **ONE** from each unit.

Compulsory Question

1. (a) Explain various LAN technologies briefly.
(b) Who do we used layered approach to network architecture ?
(c) What are the differences between narrowband and broadband ISDN ?
(d) Describe the sequence of events that take place when two stations simultaneously start transmission in CSMA/CD.
(e) Explain the advantages of dynamic routing over static routing. 5×3

UNIT—I

2. (a) What is ATM network ? How does it differ from STM ?
What is packet switching ? Explain its differences with circuit switching. 7
(b) What are different wireless communication standards used in computer networks ? 8
3. (a) Describe ATM reference model and its layered architecture. 8
(b) Describe in brief role of each layer of OSI network model. 7

UNIT—II

4. (a) Explain pure and slotted ALOHA systems. Obtain their efficiencies. 9
(b) Explain the working of IEEE 802.5 LAN standard including its maintenance. 6
5. (a) Explain one bit sliding window protocol. 9
(b) Describe the requirement of error control in data link layer. Data link protocols almost always put the CRC in a trailer rather than in a header. Why ?

UNIT—III



6. (a) Why is transport layer not present inside the subnet ?
Explain. 2
(b) Explain the connection establishment phase of TCP. 10
(c) Identify the range of IPv4 addresses spanned by classes A, B and C. 3

7. (a) What is the difference between flow control and congestion control ? Describe TCP congestion control. 7
- (b) Explain Leaky Bucket algorithm. 4
- (c) Explain the requirement and the process of fragmentation and reassembly in the network layer. 4

UNIT—IV

8. (a) What are the digital signatures ? How to generate them ? How to use them ? 9
- (b) What is meant by virtual terminal ? How does Telnet work ? Explain the standard. 6
9. (a) What is the difference between public key cryptography and symmetric key cryptography ? Explain also the scenarios in which they may be used. 10
- (b) Describe the message format of RFC 822 including meaning of various headers. 5



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