

07/06/2019

Roll No.

Total Pages : 02

BT-6/M-19

36156

COMPUTER NETWORKS

IT-306-N

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (a) Highlight the points that gave rise to the need and evolution of computer networks.
(b) Distinguish between a LAN and WAN.
2. (a) Describe the various media standards that are commonly used with LAN technologies.
(b) Explain and bring out a distinction between the functionalities of a Router, Bridge and a Switch.

Unit II

3. Name and describe the purpose of the various protocols and services of the application layer of TCP/IP architecture. What is the significance of DNS, ICMP and SMTP in the TCP/IP architecture.

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4. What is the addressing hierarchy followed in IPv4 protocol ? Distinguish between classful and classless addressing. What is the advantage of subnet addressing ? How are addresses resolved using ARP ?

Unit III

5. Answer the following in brief :
- (a) How is data bits modulated using AM, FM and PM ?
 - (b) How is data transmitted using optical fibers ?
 - (c) Describe any *one* technique of Framing.
6. (a) How is flow control managed using selective repeat sliding window protocol ?
- (b) Describe the physical specification, encoding and media access control of Token bus and Token ring networks.

Unit IV

7. (a) What is the difference between datagrams and virtual circuits used in the network layer ?
- (b) Sketch the format of TCP protocol. How are TCP connections managed ?
8. Describe the following routing techniques and protocols :
- (a) Shortest path routing
 - (b) RIP
 - (c) Multicast routing.