BCA/D-16 1233

COMPUTER NETWORKS

BCA-354

Note ; Attempt Five questions in all, selecting at least one question from each Unit in addition to compulsory Question No. 1. All questions carry equal marks

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Compulsory Question

1. (a) Write short note on Network Interface Card.
   (b) What is Web based Model?
   (c) What do you mean by bandwidth?
   (d) Differentiate between digital and analog transmission of data.
   (e) Distinguish between ALOHA and Slotted ALOHA.
   (f) What do you mean by wireless LAN?
   (g) Write short note on Routing.
   (h) Write short note on Security Certificate.

Unit-I

2. What is Computer Network? Explain various network topologies.
3. Write short notes on the following :
   (a) Bridges
   (b) Routers
   (c) Gateway
   (d) Repeaters

Unit-II

4. What do you mean by Multiplexing? Explain various types of Multiplexing.
5. (a) Explain Cable Modem and DSL Model.
   (b) What is an Optical Fibre? How is it used for data communications? What are its advantages and disadvantages?

Unit-III

6. Explain Sliding Window Protocols.
7. What is Bluetooth? Explain the architecture and applications of Bluetooth.

Unit-IV

8. (a) What is Firewall? Explain various types of Firewall.
   (b) What are the security requirement for network Explain security threats and attacks.
8. Explain Distance Vector Routing algorithm by using an example.

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Time Allowed: 3 Hours Maximum Marks: 80

Note: Attempt five questions in all. Question No. 1 is compulsory. All questions carry equal marks.

Compulsory Question

1. Explain the following terms in brief:
   (a) Web-based network model
   (b) Node and Host
   (c) DSL
   (d) Digital Carrier System
   (e) Bluetooth
   (f) Hub
   (g) Internetworking
   (h) Congestion.

Unit-I

2. (a) What do you mean by Frame-Relay and X.25? Discuss in detail. Also distinguish between the two.
   (b) Discuss the various types of computer networks
2. Explain the layered architecture of OSI reference model along with explanation of each layer in detail.

Unit-II

3. What do you mean by switching? Describe various types of switching for
4. establishing communication network along with advantages and disadvantages of each of the methods.
5. (a) How data can be represented using analog and digital signals? Distinguish between analog and digital data communication.
   (b) Differentiate between FDM, TDM and WDM.

Unit-III

6. What do you mean by error detection and correction? Explain various methods for error detection and correction using suitable exampes.
7. What is Ethernet? Explain various types of Ethernet in detail.

Unit-IV

8. How is link state routing different from distance vector routing? Whan are flooding and shortest path routing used in link state routing?
9. What is the need of network security? Discuss various types of security threats? Describe various types of security measures in details.