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HS/XII/V/CT/Paper-V/24

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COMPUTER TECHNIQUE

(Vocational Stream)

(Computer Network)

(Theory)

Paper : V

Full Marks : 100

Time : 3 hours

The figures in the margin indicate full marks for the questions

General Instructions :

- (i) Write all the answers in the Answer Script.
- (ii) Attempt Part—A (Objective Questions) serially.
- (iii) Attempt all parts of a question together at one place.

(PART : A—OBJECTIVE)

(Marks : 50)

- 1.** Fill in the blanks from the list of words/phrases given below : 1×20=20

- (a) A computer network that spans a relatively large geographical area is called ____.
- (b) In a network, a machine is identified by unique address called ____.

(2)

- (c) The physical address assigned by NIC manufacturer is called ____.
- (d) Wireless networks use an access method called ____.
- (e) In ____ network, each computer on a network is equal.
- (f) A ____ is responsible for making the networking tasks happen.
- (g) A ____ refers to a pre-decided set of rules using which all parties of a network connect and interact with one another.
- (h) A ____ computer is a host computer that requests for some services from a server.
- (i) ____ waves are used to transmit television and radio program.
- (j) ____ communication uses the synchronous satellite to relay the radio signal transmitted for ground station.
- (k) In ____ topology, each node is connected to two and only two neighbouring nodes.
- (l) ____ hubs allow the signal to pass from one computer to another without any change.
- (m) A ____ is a network device that connects dissimilar networks.
- (n) ____ is a network of physical objects embedded with electronics, softwares, sensor and network connectivity.

(3)

- (o) The ____ is the protocol used to make hypertext document readable on the WWW.
- (p) The table maintained by router for routing purposes, is called ____ table.
- (q) ____ checks if a computer is connected to a network or not.
- (r) A network device that checks the address of the message received and sends it to the appropriate computer is called a ____.
- (s) ____ network is owned and operated by a corporation or government.
- (t) A computer that connects to the Internet is called a ____.

List of Words / Phrases

MAN	Internet	Network	Active
Protocol	Satellite	Radio	HTTP
CSMA/CA	WAN	Server	MAC
Gateway	Peer-to-Peer	Passive	Ring
PING	IoT	IP address	Routing
HTML	MAN	Client	CSMA/CD

2. State whether the following statements are *True* or *False* :

1×10=10

- (a) A computer is identified by 64-bit IP address.
- (b) A client is the computer that asks for the action in a network.
- (c) MAC address is a 48-bit address.
- (d) PAN is the smallest network geographically.

(4)

- (e) The bus topology is the simplest topology.
- (f) Single mode and multimode are two types of coaxial cable.
- (g) GTP and STP are two types of fiber-optic cable.
- (h) A network having a dedicated server is known as master/slave network.
- (i) Every object on the Internet has a unique URL.
- (j) Thicknet and Thinnet are two types of coaxial cables.

3. Choose and write the correct answer : 1×5=5

- (a) In peer-to-peer network, each computer in a network is referred to as
 - (i) Server
 - (ii) Client
 - (iii) Peer
 - (iv) Sender
- (b) Which of the following networks is LEAST likely to be a WAN?
 - (i) The Internet
 - (ii) A school network
 - (iii) A network of ATM
 - (iv) A network of lab computers of attesting lab
- (c) A local telephone network is an example of a ____ network.
 - (i) packet switched
 - (ii) circuit switched
 - (iii) message switched
 - (iv) All of the above

(5)

(d) Which transmission media is capable of having a much higher bandwidth (data capacity)?

(i) Co-axial

(ii) Twisted pair cable

(iii) Untwisted pair

(iv) Fiber optic

(e) Which of these components is internal to computer and is required to connect the computer to a network?

(i) Wireless Access Point

(ii) Network Interface Card

(iii) Switch

(iv) Hub

4. Write short notes on the following in not more than 4 to 5 sentences each (any five) : 3×5=15

(a) Switch

(b) Repeater

(c) Web Browser

(d) HTTP

(e) PPP

(f) Multiuser OS

(g) Host

(h) CAT5 Cable

(6)

(PART : B—DESCRIPTIVE)

(Marks : 50)

Answer any *two* questions from each Section

SECTION—I

(**Network Technologies**)

5. (a) What are the types of network by component role? Explain. 6
- (b) Write the advantage of wireless network. 3
6. (a) What is a Ring topology? Explain. 4
- (b) What are the functions of a router? Explain. 5
7. Write short notes on the following (any *two*) : $4\frac{1}{2} \times 2 = 9$
- (a) Unguided media
- (b) Fiber optic
- (c) File server
8. Write short notes on the following : $4\frac{1}{2} + 4\frac{1}{2} = 9$
- (a) Web server
- (b) Remote login

(7)

SECTION—II

(**Network Environment**)

9. (a) What is a CSMA/CD? Explain its functions. 5
- (b) What is file transfer protocol (FTP)? Explain. 4
10. (a) What are the differences between IPv4 address and IPv6 address? Explain. 6
- (b) What is IP address? Explain its types. 3
11. (a) What is a URL? Explain. 5
- (b) What is a DNS? Explain. 4
12. (a) What is IMAP? Which part of Internet it handles? Explain. 6
- (b) What is an E-mail? Explain. 3

(8)

SECTION—III

(Network Application)

13. Write short notes on the following : 3½+3½=7

(a) Gopher

(b) V-SAT

14. (a) What is a collision in a network? 3½

(b) What is Archie? Explain. 3½

15. (a) Write a short note on POP. 4

(b) What is a talk in network? Explain in brief. 3
