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**HS/XII/V/CT/Paper-V/14**

**2 0 1 4**

**COMPUTER TECHNIQUE**

( Vocational Stream )

Paper : V

**( Computer Network )**

**( Theory )**

*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 )

SECTION—I

( Marks : 35 )

**1.** Fill in the blanks with appropriate word/words :

1×20=20

- (a) Each hardware device on a LAN is called a/an —.

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- (b) A group of two or more computers connected together and in close proximity is probably a/an — network.
- (c) For a computer to be connected to a LAN, the computer must have a card known as the —.
- (d) To connect two similar LAN's, we use a device called a/an —.
- (e) In a star topology, the central computer that has everything routed through, it is called a/an — computer.
- (f) A computer network that directly connects computers separated by long distance is called a/an —.
- (g) A set of standards for communication is called a/an —.
- (h) A processing complex known as computer — consists of two or more interconnected computers.
- (i) — means the simultaneous execution of two or more sequences of instructions by a single-computer network.

( 3 )

- (j) Ethernet uses — topology.
- (k) The Mozilla Firefox is a popular —.
- (l) A modem is a device that — computer output into a form that can be accepted for transmission over many existing telephone lines.
- (m) In — switching, packets are stored at intermediate nodes.
- (n) An operating system which most commonly associates with Internet is —.
- (o) The World Wide Web documents that a business can use to communicate with its customers is also called a/an —.
- (p) A prototype of the information superhighway is the —.
- (q) Using the Internet to send a written message to another Internet user is called —.

( 4 )

(r) SLIP stands for —.

(s) An IP address is a/an — bit number.

(t) — is one of the most popular search engines.

**2.** State whether the following statements are *True* or *False* :  $\frac{1}{2} \times 20 = 10$

(a) LAN's are arranged in star, bus or ring configurations.

(b) A fibre-optic cable may transmit pulses of laser light in an all-digital network.

(c) All modems are direct connect devices.

(d) Point-to-point microwave link is the best option to provide large connectivity.

( 5 )

- (e) On-line data entry will avoid all data entry errors.
- (f) CASE is a programming language.
- (g) A dedicated server functions only as a server and is not used as a client or workstation.
- (h) Domain names are easy to remember than IP addresses.
- (i) When loading TCP/IP on a workstation, you are actually locating to the IP protocol suite.
- (j) In a hub, a frame is passed along or 'broadcast' to everyone of its port.
- (k) A hub is used to boost the signal strength as it passes along a cable.
- (l) Twisted pair of wires, coaxial cables and fibre-optic cables are examples of unguided media.

( 6 )

- (m) Wireless media are called guided media.
- (n) Viruses are programs written by devious programmers.
- (o) To prevent unauthorized access to an organization's network there is a barrier called cookies.
- (p) Hacker is a term used by some to mean 'a clever programmer'.
- (q) A Vandal is software application or applet that causes destruction.
- (r) The domain '.com' used for command entities.
- (s) FTP is an Internet tool that copies a file from one Internet site to another.
- (t) Now-a-days in designing Web site programmer uses CUI.

( 7 )

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

(a) Which kind of network should we create when we need to link together the various branch offices around the State for a company?

(i) LAN

(ii) WAN

(iii) MAN

(iv) CAN

(b) Fast Ethernet has a maximum transmission speed of

(i) 10 mbps

(ii) 25 mbps

(iii) 50 mbps

(iv) 100 mbps

(c) Which of the following is a combination of two network architectures?

(i) Ring

(ii) Star

(iii) Tree

(iv) Linear bus

( 8 )

(d) A data highway is a good description of which network topology?

(i) A bus

(ii) A star

(iii) A ring

(iv) A token ring

(e) A broadcast address enables a message to go to

(i) a single workstation

(ii) a single group of workstations

(iii) several groups of workstations

(iv) a selected peripheral

SECTION—II

( Marks : 15 )

4. Write short notes on the following (any *five*) : 3×5=15

(a) Gateways

(b) Hub

(c) LAN

( 9 )

- (d) Repeater
- (e) Protocol
- (f) Telnet
- (g) Packets in a network
- (h) Backbone in Internet

( PART : B—DESCRIPTIVE )

( Marks : 50 )

Answer *any two* from each Unit

UNIT—I

**( Network Technologies )**

- 5. (a) What is domain? Explain with example. 3+2=5
- (b) What is geographic domain? List some of the names of geographic domain. 2+2=4
- 6. (a) What are the disadvantages of a network? Explain. 5
- (b) Explain 'multiplexing by the common carriers'. 4

( 10 )

7. (a) What is a bridge? What are its functions?  
Explain. 2+3=5
- (b) Explain the 'frame relay' in WAN technologies. 4
8. (a) What is ATM cell relay in WAN technologies?  
Explain. 6
- (b) What are the advantages of wireless LAN's?  
Explain. 3

UNIT—II

( Network Environment )

9. (a) What is NOS? Explain. 3
- (b) What is OSI model and its layers in the  
networking? Explain. 6
10. Write short notes on the following : 4½+4½=9
- (a) Subnet mask
- (b) Workgroup

( 11 )

11. (a) What is firewall? Explain. 4

(b) What is proxy server? Explain. 5

12. “In the remote connectivity, the first probable solution is ‘dial-in area’ and the second is VPN (Virtual Private Network).”

Explain the setup of ‘dial-in area’ and VPN.  $4\frac{1}{2}+4\frac{1}{2}=9$

UNIT—III

( Network Application )

13. (a) Write a short note on EDI. 3

(b) Explain various operations performed by the user with FTP. 4

14. Write a note on Gopher. 7

( 12 )

- 15.** (a) What is WWW? Explain. 3
- (b) What are the basic tags in HTML? Explain. 4
- 16.** (a) Write short notes on an 'empty tag' and a 'container tag' in HTML. Give examples with your answer. 5
- (b) What is a 'document tag' in HTML? Explain. 2

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