HS/XII/V/CT/Paper–V/22

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COMPUTER TECHNIQUE

(Vocational Stream)

(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)

1. Fill in the blanks from the list of words/phrases given at the end : 1×20=20

   (a) Central computer which is powerful than other computer in the network is called _____.

   (b) In peer-to-peer network, each computer in a network is referred to as _____.

[P.T.O.

(c) A repeater takes a weak and corrupted signal and _____ it.

(d) A computer network that spans a relatively large geographical area is called _____.

(e) LAN stands for _____.

(f) Wired networks use an access method called _____.

(g) _____ is a protocol that allows to send/upload email message from local computer to an email server.

(h) A network of networks is known as _____.

(i) In a network, a machine is identified by unique address called _____.

(j) The physical address assigned by NIC manufacturer is called _____ address.

(k) _____ is a network of physical object embedded with electronics, software, sensors and network connectivity.

(l) The _____ is the protocol used to make hypertext document readable on the WWW.

(m) We can amplify the signal using _____.

(n) _____ is the technique of changing the characteristics of the signal being transmitted so that it carries data on it.

(o) The table maintains by routers for routing purposes, is called _____ table.

(p) Some of data bits calculated from digital data so as to ensure data integrity is called _____.

(q) Each computer connected to the Internet is known as a/an _____.

(r) _____ is a device converts the analog signals and vice-versa.

(s) The Mozilla Firefox is a popular _____.

(t) A _____ is a set of rules that governs the communications between computers on a network.

List of phrases/words :

CSMA/CD	SMTP	IP address	NIC
MAC	TCP/IP	regenerates	Modulation
WAN	Local Area Network	HTTP	LAN
Internet	Server	IoT	CSMA/CA
Modem	Routing	Node	Web Browser
Hub	Data Packet	Intranet	peer
Checksum	Repeater	EDI	mail

(4)

2. State whether the following statements are *True* or *False* : 1×10=10

(a) A stand-alone computer may also be referred to as host.

(b) A computer is identified by 64-bit IP address.

(c) A client is the computer that asks for the action in a network.

(d) Every object on the Internet has unique URL.

(e) A switch can work in place of a hub.

(f) The cloud is a generic term used for Internet.

(g) TCP is a connection-oriented protocol.

(h) CSMA/CD can be used by wireless network.

(i) An octet is an 8-bit binary number.

(j) Router is usually used in MAN.

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

(a) Protocols are

   (i) agreements on how communication components and devices are to communicate

  (ii) logical communication channels for transferring data

 (iii) physical communication channels used for transferring data

 (iv) None of the above

(b) Traditionally, Internet checksum is

   (i) 8-bit

  (ii) 16-bit

 (iii) 24-bit

  (iv) 32-bit

(c) A firewall is

   (i) an established network performance reference point

  (ii) a software or hardware used to secure/guard a private network from a public network

 (iii) a virus that infects macros

  (iv) a pre-defined encryption by user to encrypt and decrypt data transmission

(d) What is the address size of IPv4?

   (i) 32 bits

  (ii) 64 bits

 (iii) 128 bits

  (iv) 256 bits

(e) For wireless networks, which protocol is used for handling collisions?

   (i) CSMA

  (ii) CSMA/CD

 (iii) CSMA/CA

  (iv) All of the above

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) Ping command

(d) Hybrid topology

(e) Hackers

(f) Gateway

(g) Internet

(PART : B—DESCRIPTIVE)

(*Marks* : 50)

Answer any **two** questions from each Section

SECTION—I

(**Network Technologies**)

5. *(a)* What is a network? Why is it needed? 2+4=6

(b) What are the purposes of using a router? 3

6. *(a)* What are the major types of network? Explain. 6

(b) What is NIC? 3

(7)

7. Write short notes on the following (any *two*) :   4½×2=9

   (a) Guided media

   (b) Topology

   (c) Fiber optic

8. *(a)* What is a collision in a network? Explain.   5

   (b) What is a file server? Explain its functions.   4

SECTION—II

(Network Environment)

9. *(a)* What is multi-user operating system? Explain with example.   4½

   (b) What is booting? What are the types of booting? Explain.   4½

10. *(a)* What are the differences between IPv4 address and IPv6 address?   6

    (b) What is IP address? Explain.   3

11. *(a)* What is a Domain Name Resolution or (DNS)? Explain.   5

    (b) Write a short note on V-SAT.   4

12. *(a)* What is File Transfer Protocol? Explain.   5

    (b) What is SMTP? Explain.   4

(**8**)

SECTION—III

(**Network Application**)

13. *(a)* What is a 'mosaic'? Explain. 4

(b) What is e-mail? Explain. 3

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

(a) Gopher

(b) Archie

15. *(a)* What are HTTP and HTML? Explain their importance in accessing Internet. 5

(b) What is a webpage? 2

16. *(a)* What is the difference between a private network and a public network? 4

(b) What is 'error detection' in network? Mention the types of 'error'. 2+1=3

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