

Total No. of Printed Pages—8

HS/XII/V/CT/Paper-V/26

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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 _____ is a collection of computers and devices connected together via communication devices.

(2)

- (b) A ____ connects multiple devices in a network and operates at the data link layer.
- (c) The device that regenerates and amplifies signals in a network is called a ____.
- (d) ____ topology has a single backbone cable to which all devices are connected.
- (e) The unique name used to identify a website on the internet is called a ____.
- (f) The device used to connect two different networks is called a ____.
- (g) ____ is a connection-oriented protocol.
- (h) ____ is responsible for logical addressing in a network.
- (i) A ____ address is a hardware address that uniquely identifies each device on a network.
- (j) A ____ is used to prevent unauthorized access to or from a private network.
- (k) Windows, Linux and Mac OS are types of ____.
- (l) The smallest unit of data in a computer is a ____.

(3)

- (m) The application that allows users to access and browse web pages is called a ____.
- (n) The ____ is a system that translates domain names into IP addresses.
- (o) ____ allows real-time audio and video communication over a network.
- (p) ____ is a secure version of http used for online transactions.
- (q) Online banking is an example of an/a ____ application.
- (r) A ____ is a website or software that allows users to share contents and interact online.
- (s) The protocol used to receive emails is ____.
- (t) ____ is used to transfer files between computers over a network.

List of Words/Phrases

Bit	Repeater	Bus	Firewall
e-commerce	https	Web browser	IP
VoIP	Domain name	Social media	DNS
FTP	Network	Operating system	TCP/IP
POP3	Switch	MAC	Router

(4)

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

1×10=10

- (a) A switch is more efficient than a hub in managing network traffic.
- (b) IP addresses are assigned to devices at the physical layer.
- (c) TCP is a connectionless protocol.
- (d) The MAC address is software-assigned.
- (e) Wi-Fi is a wireless communication technology.
- (f) Fiber optic cables use electrical signals to transmit data.
- (g) Ping is a utility used to test network connectivity.
- (h) In a ring topology, data flows in multiple directions at once.
- (i) In a client-server network, all computers have equal responsibilities.
- (j) Router operates at the network layer of the OSI model.

(5)

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

(a) Which topology uses a central device to connect all other devices?

- (i) Bus
- (ii) Ring
- (iii) Star
- (iv) Mesh

(b) Which is the primary function of a switch in a network?

- (i) To translate IP addresses
- (ii) To route data packets
- (iii) To connect devices and forward data within a network
- (iv) To convert digital signal to analog

(c) Which network covers a large geographical area?

- (i) LAN
- (ii) MAN
- (iii) WAN
- (iv) PAN

(d) Which of the following is not a guided media?

- (i) Coaxial cable
- (ii) Optical fiber
- (iii) Twisted pair
- (iv) Radio wave

(6)

(e) Which protocol is used to access web pages on the internet?

(i) SMTP

(ii) FTP

(iii) HTTP

(iv) SNMP

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

(a) http

(b) Repeater

(c) Fiber cable

(d) PPP

(e) Single-user OS

(f) Host

(g) CAT5 cable

(h) Antivirus

(i) Multiuser OS

(7)

(PART : B—DESCRIPTIVE)

(Marks : 50)

Answer any *two* questions from each Section

SECTION—I

(**Network Technology**)

5. (a) What is the purpose of a repeater? Explain. 4
(b) What is a switch? Why is it widely used in networking? 5
6. (a) What is a network? What are the types of network based on geographical spread? Explain. 5
(b) What is a network topology? Explain the hybrid topology. 4
7. (a) What is a transmission media? What are its types? Explain. 5
(b) What are the advantages of optical fiber cable? Explain. 4
8. (a) What are the functions of TCP/IP? Explain. 4
(b) What are the advantages of star topology? Explain. 5

SECTION—II

(**Network Environment**)

9. (a) What is protocol? Name some commonly used protocols and explain them. 5
(b) What is HTTPS? What are its advantages? 4

(8)

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|------------|--|---|
| 10. | (a) What is Domain Name System? Explain. | 4 |
| | (b) What is remote access service? Explain. | 5 |
| 11. | (a) What is booting? What are the types of booting? Explain. | 5 |
| | (b) What is URL? Explain with example. | 4 |
| 12. | (a) What is a DNS server? Explain. | 5 |
| | (b) What is web page? Explain. | 4 |

SECTION—III

(Network Application)

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|------------|---|-------|
| 13. | Write short notes on the following : | 4+3=7 |
| | (a) Cookies | |
| | (b) Crackers | |
| 14. | (a) What is Gopher? Explain. | 4 |
| | (b) What are the functions of web browser? | 3 |
| 15. | (a) What are the differences between XML and HTML? Explain. | 5 |
| | (b) What is POP in network protocol? | 2 |
| 16. | (a) What is a homepage in a website? Explain. | 3 |
| | (b) What is intranet? Explain. | 4 |

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