

STATE BOARD OF TECHNICAL EDUCATION AND TRAINING
TELANGANA
DIPLOMA EXAMINATION (C-18) , C-18-REGULAR-FEB-2021
SEMESTER V , SEMESTER END EXAM



18EC-503C

6551

Data Communications and Computer Networks

Exam Date: 22-02-2021

Session: AN

Duration: 3 Hours [02:00 PM To 05:00 PM]

[Total Marks: 60]

PART-A

- Instructions:**
1. Answer any **TWELVE** questions
 2. Each question carries **ONE** mark

12 X 1 = 12

1. Write any two applications of twisted pair cables
2. Define throughput of a physical medium
3. What is the main difference between bridge, repeater and switch
4. List any two properties of FDDI
5. What is the length of IP address used in IPv4 and IPv6 ?
6. What is the function of router ?
7. State the function of Address Resolution Protocol
8. Write any two important features of TCP/IP.
9. Define full-duplex communication
10. Name any two application layer protocols of TCP/IP.
11. List the different network security methods
12. What is the function of a protocol in computer networks
13. Define entity authentication
14. What do you understand by cyber security ?
15. Write any two HTTP commands.
16. What is the function of a web browser ?

PART-B

- Instructions:** 1. Answer any **SIX** questions
2. Each question carries **THREE** marks

6 X 3 = 18

17(a). Distinguish between Circuit Switching and Packet Switching

---- OR ----

~~17(b).~~ List the different types of physical transmission media

~~18(a).~~ List any three advantages of star network topology.

---- OR ----

18(b). Differentiate between repeater, switch and bridges

~~19(a).~~ List the important features of IPv6 addressing.

---- OR ----

19(b). State the use of routers in networking

20(a). Compare between TCP and UDP

---- OR ----

~~20(b).~~ State the function of ports and sockets

21(a). Write any three important features of Bluetooth technology.

--- OR ---

21(b). Define the terms message confidentiality and message integrity.

~~22(a).~~ What do you understand by WAN ?

---- OR ----

~~22(b).~~ List any three HTTP commands and mention their function

23(a). Define the terms ; a) Message Authentication b) Entity Authentication

---- OR ----

~~23(b).~~ State the need for Cyber Security

~~24(a).~~ Explain the purpose of proxy server

---- OR ----

24(b). What is a web server ? Mention any two web server addresses

10

PART-C

Instructions:

1. Answer any **SIX** questions
2. Each question carries **FIVE** marks

6 X 5 = 30

~~25(a).~~ Explain about the Coaxial and Fiber optic cable and mention their uses in Networking.

--- OR ---

25(b). Explain about the packet switching technique used in networking

26(a). Explain the need for flow control and error control protocols.

--- OR ---

~~26(b).~~ Draw the physical network topology of Bus, Star and Ring topologies.

~~27(a).~~ Explain the internal architecture of ISP with a neat sketch.

--- OR ---

27(b). Explain about the dial-up and leased line internet connection methods.

~~28(a).~~ Explain the use of Gateways

--- OR ---

28(b). Explain about Address Resolution Protocol (ARP)

29(a). Explain about the topology of wireless LAN.

--- OR ---

29(b). Compare between message authentication and entity authentication.

30(a). Explain the different layers of TCP/IP.

--- OR ---

~~30(b).~~ Write differences between POP sever & SMTP server

31(a). Write about network security and security services provided by the network.

--- OR ---

31(b). Mention the various network security threats and suggest security measures for each

32(a). Explain about remote login using telnet protocol

--- OR ---

~~32(b).~~ Explain how email is transferred over internet