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(6th Semester)

BACHELOR OF COMPUTER APPLICATIONS

Paper No. : BCA–6E3

(Fundamentals of TCP/IP)

Full Marks : 75

Time : 3 hours

(PART : A—OBJECTIVE)

(*Marks* : 25)

The figures in the margin indicate full marks for the questions

SECTION—A

(*Marks* : 15)

1. Tick (✓) the correct answer in the brackets provided :   1×10=10

(a) Which layer is responsible for process-to-process delivery?

   (i) Network layer   (   )   *(ii)* Transport layer   (   )

   (iii) Session layer   (   )   *(iv)* Datalink layer   (   )

(b) The main advantage of UDP is

   (i) more overload   (   )   *(ii)* reliable   (   )

   (iii) less overload   (   )   *(iv)* fast   (   )

(c) In IPv4 addressing, the subnet mask of /8 network is

   (i) 255.0.0.0   (   )   *(ii)* 255.255.0.0   (   )

   (iii) 255.255.255.0   (   )   *(iv)* All of the above   (   )

(d) The right to use a domain name is delegated by domain name registers which are accredited by

    (i) Internet architecture board   (   )

    (ii) Internet society   (   )

    (iii) Internet research task force   (   )

    (iv) Internet corporation for assigned names and numbers   (   )

(e) Internet protocol is _____ and _____ protocol. It ensures no guarantee of successfully transmission of data.

    (i) connectionless, reliable   (   )

    (ii) connection, non-reliable   (   )

    (iii) connectionless, no-reliable   (   )

    (iv) All of the above   (   )

(f) The 128 bits of an IPv6 address are represented in 8 groups of _____ bits each.

    (i) 12   (   )   *(ii)* 16   (   )

    (iii) 8   (   )   *(iv)* 4   (   )

(g) Routing that occurs when a router uses a manually configured routing entry, rather than information from a dynamic routing traffic is

    (i) static routing   (   )   *(ii)* dynamic routing   (   )

    (iii) RIPv1   (   )   *(iv)* OSPF   (   )

(h) _____ identifies how far it is to the destination network and is based on a metric such as the hop count, cost, bandwidth, delay, and more and specifies the direction of the next-hop router or exit interface to reach the destination.

    (i) Link state routing protocol   (   )

    (ii) Classful routing protocol   (   )

    (iii) Distance vector routing protocol   (   )

    (iv) All of the above   (   )

(i) FTP to download file from the remote computer is

    (i) put   (   )   *(ii)* get   (   )

    (iii) mput   (   )   *(iv)* All of the above   (   )

(j) Which command is used to look up users on a remote machine in Linux?

   (i) Whois   (   )   *(ii)* Figure   (   )

   (iii) Finger   (   )   *(iv)* Find   (   )

2. State whether the following statements are *True (T)* or *False (F)* by putting a Tick (✓) mark in the brackets provided :   1×5=5

(a) The network layer also called the Internet layer, deals with packets and connects independent networks to transport the packets across network boundaries.   *(T / F)*

(b) A TLD (top-level domain) is the lowest level of domain names in the root zone of the DNS of the Internet.   *(T / F)*

(c) The address of IPv6 Link local is ::/128.   *(T / F)*

(d) The Routing Information Protocol (RIP) sends routing update messages at regular intervals and when the network topology changes.
       (T / F)

(e) A TELNET server generally listens on TCP Port 23.   *(T / F)*

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SECTION—B

(*Marks* : 10)

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Answer the following questions :   2×5=10

  1. What is Internet?

  2. Explain namespace of DNS.

  3. Explain the frame format of IP.

  4. State the main differences between static routing and dynamic routing.

  5. Explain 'whois' command.

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(PART : B—DESCRIPTIVE)

(*Marks* : 50)

The figures in the margin indicate full marks for the questions

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1. *(a)* What is hypertext? Explain different types of service.   5

    (b) What is ICANN? Explain how IANA assigned IP addresses today.   5

(c) What is packet? Explain different types of IP header.   4

(d) Explain different layers of TCP/IP.   6

2. (a) What is RARP? Explain the implementation of RARP for assigning dynamic IP.   5

(b) What is ARP? Explain the four types of ARP implementation for resolving IP to MAC Address.   5

OR

(c) Explain how DNS resolved Web address into corresponding IP Address.   4

(d) What is WINS? Explain the implementation and configuration process of WINS.   6

3. (a) What is subnet mask? Explain Classless Inter-domain Routing Notation.   5

(b) What is Default Gateway? Explain the transport protocol and their services.   5

OR

(c) What is IPv6? Explain the features of IPv6.   4

(d) Explain the address structure of IPv6.   6

4. (a) What is routing? Explain the system of Open Shortest Path First (OSPF).   5

(b) Explain how RIP maintains routing table.   5

OR

(c) Explain the difference between dynamic routing and static routing.   4

(d) Explain the difference between Exterior Gateway Protocol Routing and Border Gateway Protocol Routing.   6

5. (a) Explain the difference between 'whois' and 'finger command'.   4

(b) What is FTP? Explain different types of FTP command.   6

OR

(c) Explain connection process of TELNET client and server.   5

(d) Explain how to connect FTP server using secure connection.   5

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